Mahoningside Power Plant Site - Drill Logs for PCB core sampling

Date: 11-28-08

Time: 0820

Drill Location: 2

Driller: Summit Drilling

Log/Sampling Personnel: Kimble

Depth	% Recovery	Graphic Log	Description	Remarks
2'2"			concrete 8" / 4" soil	
3.5 feet			soils	
5ft			grey shale	
10ft			8 ft core	

VAP Certified Laboratories

The table below contains a list of laboratories who have been certified to conduct work in support of a voluntary action. This list is updated monthly.

It is important to keep in mind that certifications are valid for two years for certified laboratories. When you contact a laboratory or professional, make sure that their certification has not expired. In addition, laboratories are certified for only certain groups of chemicals and, therefore, one should check with each laboratory to determine exactly what chemicals they are certified to analyze.

Questions concerning laboratory and professional certification should be directed to the Voluntary Action Program at (614) 644-2924.

Laboratories who have been certified to conduct work in support of a voluntary action:

PCB Certified	CERTIFIED LAB NAME	CONTACT PERSON	CITY, STATE	TELEPHONE NUMBER	Method
Y	America Analytical Labs	Ron Gibas	Akron, OH	(330)535-1300	8082
Y	Aqua Tech Environmental Labs, Inc.	Mike Herdlick	Melmore, OH	(800)783-5991	8081
/	Aqua Tech Environmental Labs, Inc. (Marion)	Mike Herdlick	Marion, OH	(800)873-2835	/
Y	Biological & Environmental Control Labs, Inc.	John Blair	Toledo, OH	(419)693-5307	8082
N	Blackhand Laboratories	Jennifer Kraft	Lancaster, OH	(740)654-0112	N/A
N	Burgess & Niple, Limited	Scot Hoffman	Columbus, OH	(614)459-2050	N/A
Y	Datachem Laboratories	Jim Baxter	Cincinnati, OH	(513)733-5336	8082
Y	DLZ Laboratories Inc.	Mike Davis	Columbus, OH	(614)848-4333	8082
Y	E. A. Group (Electro Analytical Group)	Donald Richner	Mentor, OH	(800)875-3514	8081
Y	Fire & Environmental Consulting Laboratories	Maya V. Murshak	East Lansing, MI	(517)332-0167	8081
Y	Geo Analytical	Terry Harper	Twinsburg, OH	(330)963-6990	8081
Y	Kemron Environmental Services	Dan Musgrave	Marietta, OH	(740)373-4071	8082
Y	Severn Trent Laboratories	Jeff Smith	North Canton, OH	(330)497-9396	8082
/	Severn Trent Labs - Chicago (Recra Labnet)	Donna McCarthy	University Park, IL	(708)534-5200	/
Y	Southern Petroleum Laboratories, Inc.	Idelis Williams	Houston, TX	(713)660-0901	8082
Y	TesTAmerica, Inc.	Jim Davis	Dayton, OH	(937)294-6856	8080A +
Y	TestAmerica, Inc.	Ted Duello	Nashville, TN	(615)726-0177	8082

* 8082 - Most current method

** 8081 vs 8082 - "change made to obtain PCB data of better quality & to eliminate the complications inherent in a Combine... Method" -SW-846-

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+8080A - older method

1/11/01

- VAP "REINSTALLMENT"

- ELIGIBILITY → TSCA WRITE-OFF PUTS THE SITE BACK INTO THE VAP
  → PCB STANDARDS IN VAP
  → CONFIRMATION SAMPLING REQUIRE (CERT. LAB)
  → SPLIT SAMPLING by VAP CERT. PROFESSIONAL

→ MONITORING WELLS by U.S. EPA ?

→ GROUNDWATER FEAS. ASSISTANCE FROM OEPA

→ NEED DISTANCE → HIGH CONCENTRATION OF PCBs TO RIVER.

→ TANK #6 OIL (20,000 GAL ? - 1/3 FULL)
→ OIL HOUSE IN TUNNEL
  - 5°,000 GALLONS, OIL/WATER

MOLER

FITZPATRICK INVEST → STORY ON TRANSFORMER WORK @ SITE.

?

- TSCA CLEARANCE.
- PHASE II. (WEST SIDE)
- TECH MIGRATION EVALUATION (MONITORING/CONTROLS?).
- OIL STORAGE REMOVAL (TANK/SOIL INVEST.)

★ DATA TABLES TO OEPA/MCAGE

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TesTAmerica, Inc.	Jim Davis	Dayton, OH	(937)294-6856
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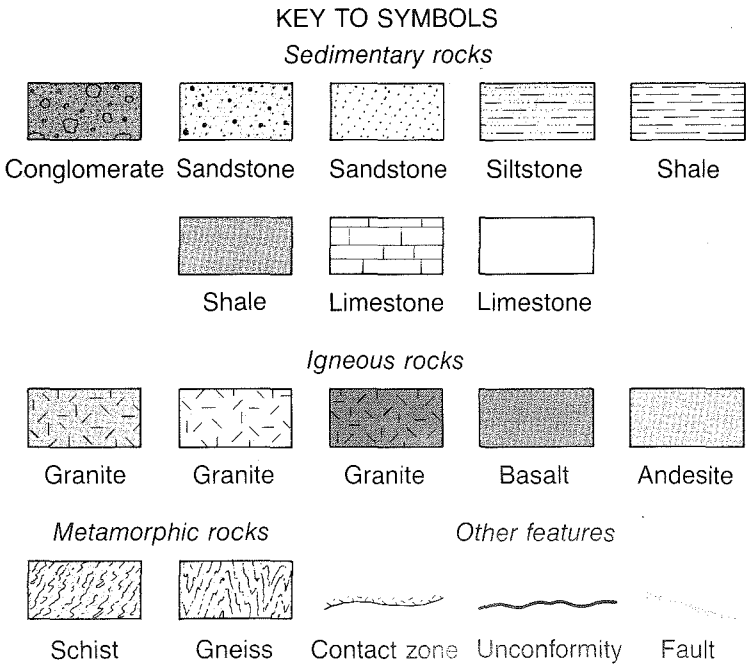
buried surface that was eroded. Unconformities range from local to continent-wide.

Principle of Cross Cutting Any geologic feature that *cuts across* a rock or sediment must be *younger* than the rock or sediment it cuts across. Such cross-cutting features include a fracture (a crack in rock), a fault (a fracture along which movement has occurred), or an intrusive mass of rock.

APPLYING THE PRINCIPLES

Figures 13.1 through 13.13 show you how these principles are used.



Relative Ages of Sedimentary Rocks

Sedimentary rocks result from the deposition of sediments, layer by layer, on Earth's surface.

1. Horizontal rocks (Figure 13.1). A simple illustration of the principle of superposition.
2. Folded rocks (Figure 13.2). The rocks have been deformed by folding. If a series of strata is folded, the folding happened more recently than the age of the youngest rock affected.
3. A sedimentary layer that lies with an angular discordance on other rocks is the youngest (Figure 13.3).
4. If a series of strata is folded into an **anticline,** then the *oldest* formation is in the core of the

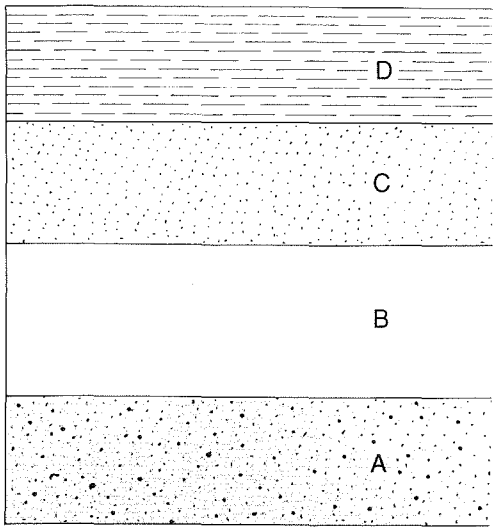


FIGURE 13.1 Geologic cross section the oldest. Layer **D** is the youngest.

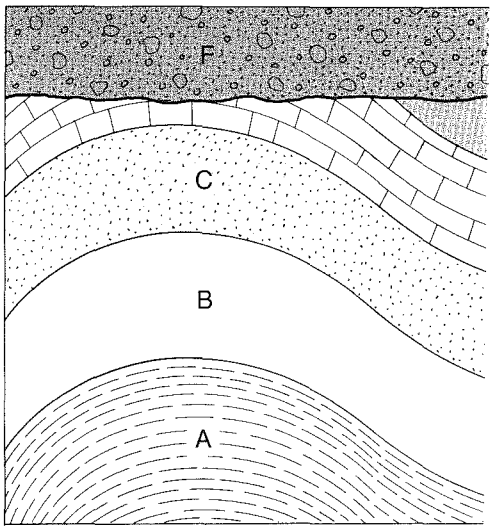


FIGURE 13.2 Geologic cross sectior the oldest. Layer **F** is the youngest. occurred after **E** was deposited, but deposited.

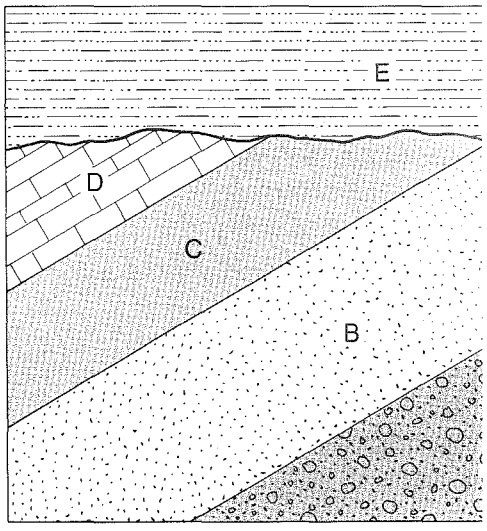


FIGURE 13.3 Geologic cross sectio

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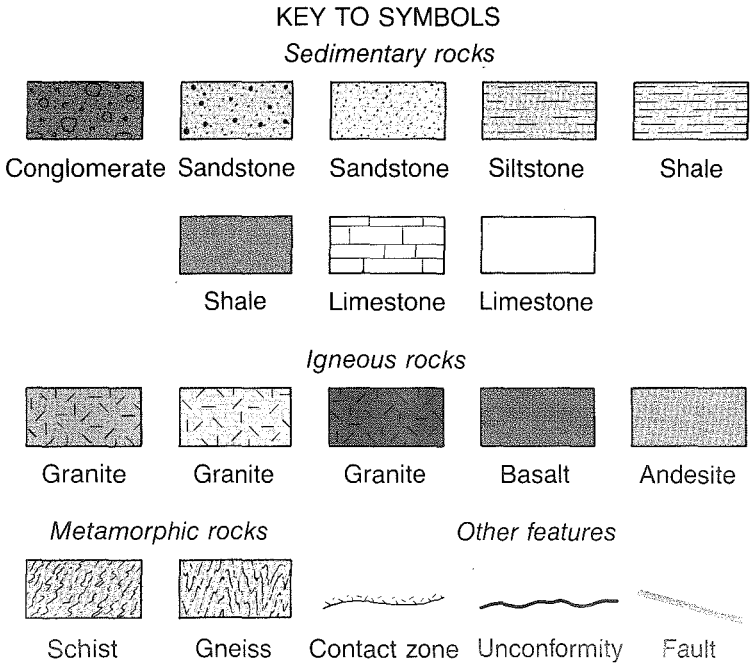

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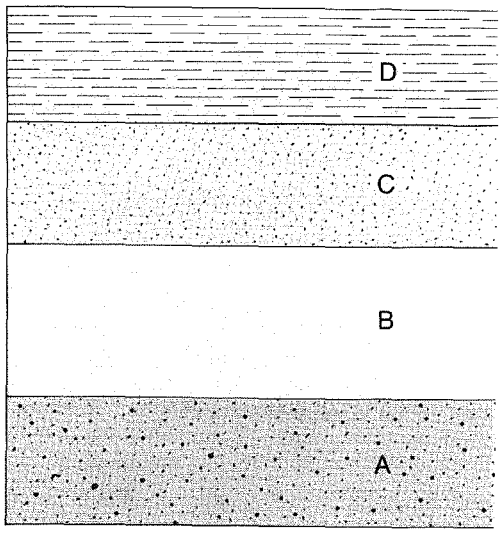

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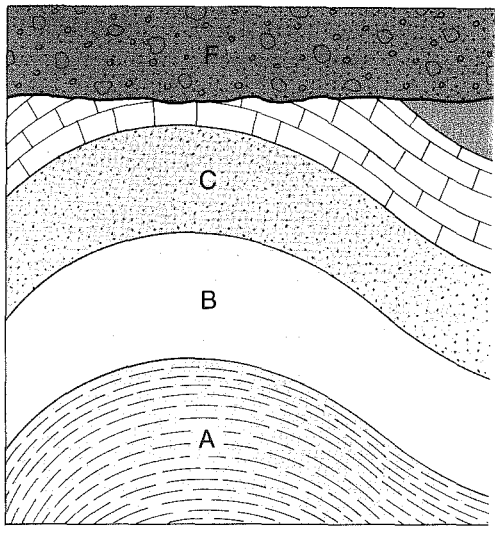

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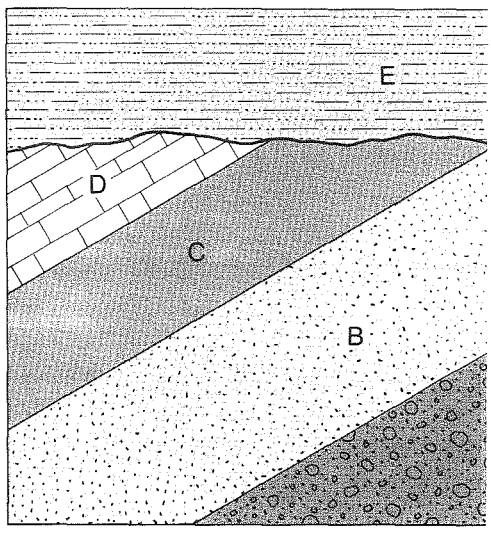


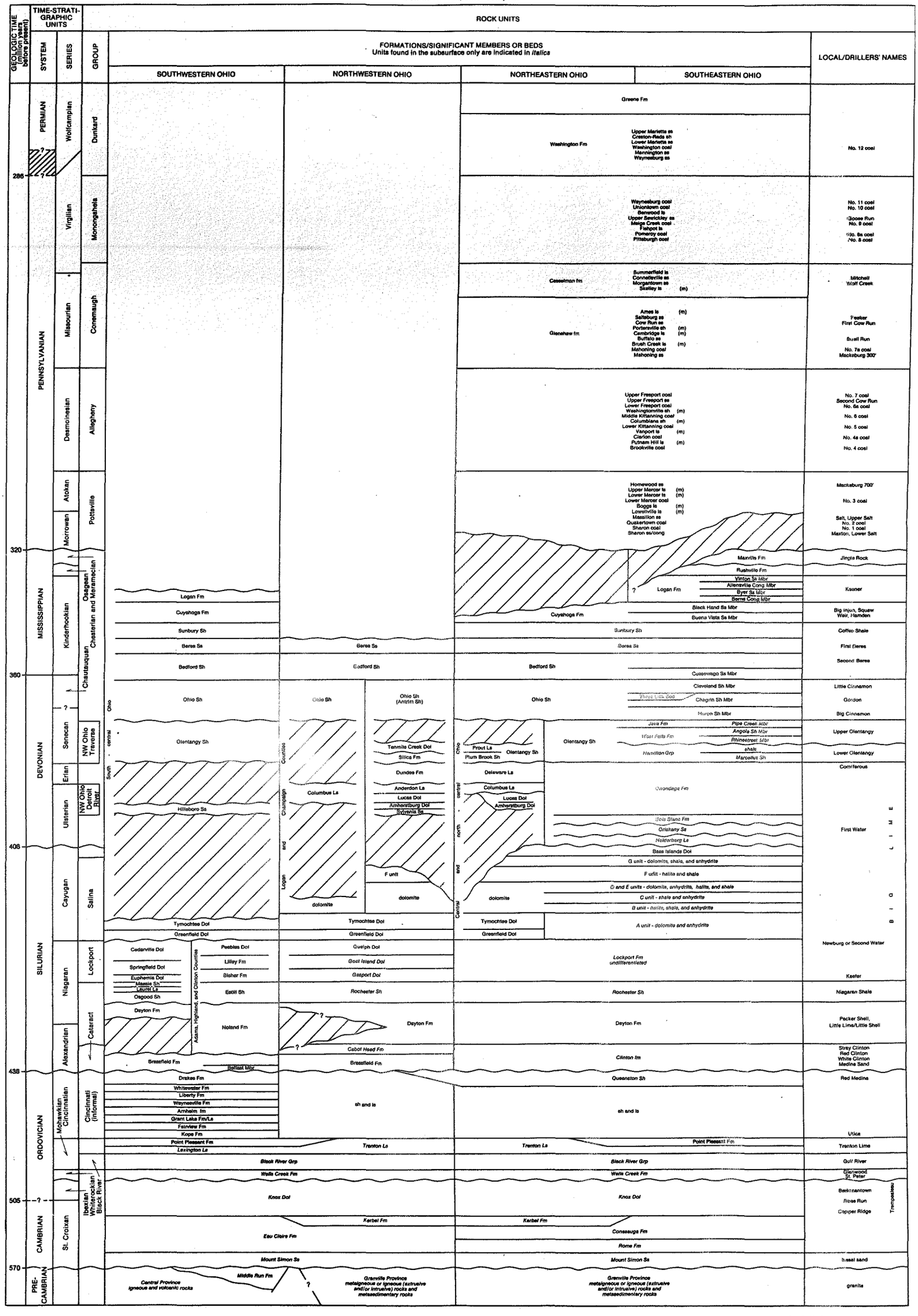
FIGURE 13.3 Geologic cross sectio

ODNR
OHIO DEPARTMENT OF NATURAL RESOURCES

GENERALIZED COLUMN OF BEDROCK UNITS IN OHIO

Dennis N. Hull, chief compiler

STATE OF OHIO
George V. Voinovich, Governor
DEPARTMENT OF NATURAL RESOURCES
Frances S. Buchholzer, Director
DIVISION OF GEOLOGICAL SURVEY
Thomas M. Berg, Chief



Sh, sh shale
Ss, ss sandstone
Ls, ls limestone
Dol, dol dolomite
cong conglomerate
(m) Pennsylvanian marine zone
Grp, grp Group
Fm, fm Formation
Mbr Member
Depositional hiatus or interval removed by erosion
unconformity
Note: lower case lithologic or stratigraphic names indicate informal status of unit

Compiled by Dennis N. Hull from numerous published and unpublished sources and through personal communications with the staff of the Division of Geological Survey. Time boundaries from Geological Society of America.

6/90

Naturally OHIO the heart of it all!

OHIO DEPARTMENT OF NATURAL RESOURCES DIVISION OF GEOLOGICAL SURVEY

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words in a report; but they are often described with diagrams such as shown in Figure 13. Relationships, which can be defined between two objects, are stored in this table using keywords in the *relation* attribute and, if desired, a text description of the relationship in the *rel_desc* attribute. An initial list of relationship keywords (Table 25) is included with the data model, but the list is intended to be expanded by mutual consent as new uses for the table are discovered.

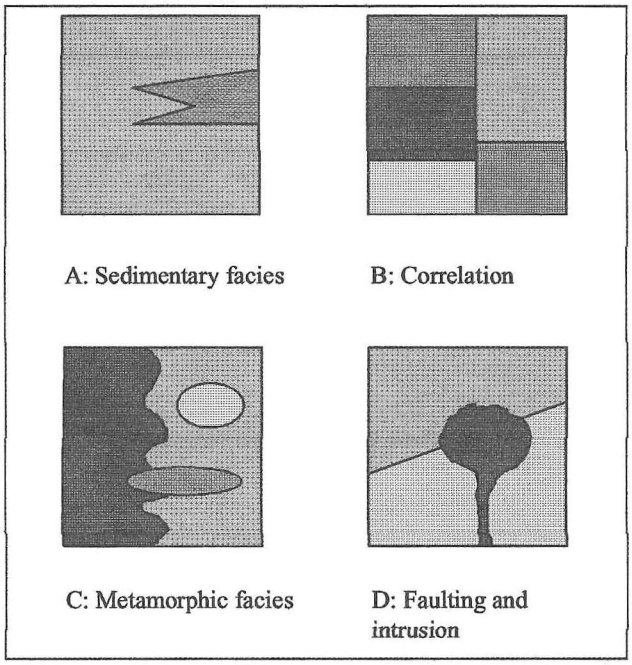


Figure 13. Diagrams used on geologic maps to describe relationships between map objects.

Table 24: Definition of the attributes in the COA Relation Table.

Attribute	Definition	Format
* **rel_id**	Unique identification number for a record in this table	integer
coa_id @	Unique identification number of a unit in the Compound Object Archive	integer
rel_coa_id @	Unique identification number of a second unit in the COA Table to which the first object is related in some fashion	integer
relation <	A broad category of temporal and structural relationships between units. This information may allow for refinement of age, structural, or spatial relationships	character
rel_desc	Text description of the relationship	character

The following table (Table 25) contains an initial word list for the *relation* attribute of the COA Relation Table. This list is not complete. In developing this list, it seems most appropriate that the list include verbs or prepositions. Thus 'correlates' is suggested instead of 'facies'. This usage allows for rough construction of sentences, which may be useful in the automation of descriptions of objects. Note that other aspects of the relationships between specific occurrences of objects is also stored in the COA Tree Table, the Structural Type Table, and in various rock unit tables.

			subordinate grain sizes ranging from clay to fine sand.
Lake deposit (non-glacial)	12	2	A sedimentary deposit laid down conformably on the floor of a lake, usually consisting of coarse material near the shore and sometimes passing rapidly into clay and limestone in deeper water…
Playa	13	3	…a dry, vegetation-free, flat area at the lowest part of an undrained desert basin, underlain by stratified clay, silt, or sand, and commonly by soluble salts.
Lake terrace	14	3	A narrow shelf, partly cut and partly built, produced along a lake shore…and later exposed when the water level falls.
Marine	15	2	Deposits constructed by the action of waves and currents of the sea. (working definition)
Beach sand	16	3	A loose aggregate of unlithified mineral or rock particles of sand size forming a beach (the relatively thick and temporary accumulation of loose water-borne material that is in active transit along, or deposited on, the shore zone between the limits of low water and high water). (working definition)
Marine terrace	17	3	…a wave-cut platform that has been exposed by uplift along a seacoast or by the lowering of sea level, and from 3 m to more than 40 m above mean sea level; an elevated marine-cut bench.
Mud flat	18	3	A relatively level area of fine silt along a shore (as in a sheltered estuary) or around an island, alternately covered and uncovered by the tide, or covered by shallow water…
Mass wasting	19	2	Deposits formed by the dislodgement and downslope transport of soil and rock material under the direct application of gravitational body stresses.
Colluvium	20	3	A general term applied to any loose, heterogeneous, and incoherent mass of soil material and/or rock fragments deposited by rainwash, sheetwash, or slow, continuous downslope creep, usually collecting at the base of gentle slopes or hillsides.
Mudflow	21	3	Deposits formed by a process characterized by a flowing mass of predominantly fine-grained earth material possessing a high degree of fluidity during movement.
Lahar	22	4	A mudflow composed chiefly of volcaniclastic materials on the flank of a volcano.
Debris flow	23	3	A moving mass of rock fragments, soil, and mud, more than half of the particles being larger than sand size.
Landslide	24	3	A general term covering a wide variety of mass-movement landforms and processes involving the downslope transport, under gravitational influence, of soil and rock material, en mass.
Talus	25	3	An outward sloping and accumulated heap or mass of rock fragments of any size or shape (usually coarse and angular) derived from and lying at the base of a cliff or very steep, rocky slope, and formed chiefly by gravitational falling, rolling, or sliding.
Tectonic mélange	26	3	A mélange produced by tectonic processes.

Glacial drift	27	2	A general term applied to all rock material (clay, silt, sand, gravel, boulders) transported by a glacier and deposited directly by or from the ice, or by running water emanating from a glacier.
Glacial till	28	3	Dominantly unsorted and unstratified drift, generally unconsolidated, deposited directly by and underneath a glacier without subsequent reworking by meltwater…
Stratified glacial sediment	29	3	Stratified glacial drift deposited by, or reworked by running water, or deposited in standing water. (working definition)
Outwash	30	4	Stratified detritus (chiefly sand and gravel) removed or "washed out" from a glacier by meltwater streams and deposited in front of or behind the end moraine or the margin of an active glacier.
Glaciolacustrine	31	4	Deposits and landforms composed of suspended material brought by meltwater streams flowing into lakes bordering the glacier, such as deltas, kame deltas, and varved sediments.
Glacial-marine	32	4	Deposits of glacially eroded, terrestrially derived sediment in the marine environment.
Peat	33	2	An unconsolidated deposit of semicarbonized plant remains in a water saturated environment, such as a bog or fen, and of persistently high moisture content (at least 75%).
Residuum	34	2	An accumulation or rock debris formed by weathering and remaining essentially in place after all but the least soluble constituents have been removed…
Sedimentary rock	35	1	A rock resulting from the consolidation of loose sediment that has accumulated in layers…
Mudstone	36	2	A general term that includes clay, silt, claystone, siltstone, shale, and argillite, and that should be used only when the amounts of clay and silt are not known or specified or cannot be precisely identified…
Claystone	37	3	An indurated rock with more than 67% clay-sized minerals.
Shale	38	3	A laminated, indurated rock with more than 67% clay-sized minerals.
Siltstone	39	3	An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which the silt predominates over clay.
Sandstone	40	2	A medium-grained clastic sedimentary rock composed of abundant rounded or angular fragments of sand size with or without a fine-grained matrix (silt or clay) and more or less firmly united by a cementing material…
Arenite	41	3	A "clean" sandstone that is well-sorted, contains little or no matrix material, and has a relatively simple mineralogic composition; specifically a pure or nearly pure, chemically cemented sandstone containing less than 10% argillaceous matrix.
Orthoquartzite	42	4	A clastic sedimentary rock that is made up almost exclusively of quartz sand (with or without chert), that is relatively free of or lacks a fine-grained matrix; a quartzite of sedimentary origin, or a "pure quartz sandstone".

Arkose	43	3	A feldspar-rich sandstone, commonly coarse-grained and pink or reddish, that is typically composed of angular to subangular grains that may be either poorly or moderately well sorted... Quartz is usually the dominant mineral, with feldspars constituting at least 25%.
Wacke	44	3	A "dirty" sandstone that consists of a mixed variety of unsorted or poorly sorted mineral and rock fragments and of an abundant matrix of clay and fine silt; specifically an impure sandstone containing more than 10% argillaceous matrix.
Conglomerate	45	2	A coarse-grained clastic sedimentary rock, composed of rounded to subangular fragments larger than 2 mm in diameter typically containing fine-grained particles in the interstices, and commonly cemented by calcium carbonate, iron oxide, silica, or hardened clay...
Sedimentary breccia	46	2	A breccia (coarse-grained clastic rock composed of angular broken rock fragments held together by a mineral cement or a fine-grained matrix) formed by sedimentary processes. (working definition)
Sedimentary mélange	47	2	A body of rock mappable at a scale of 1:24000 or smaller, characterized by a lack of internal continuity of contacts or strata and by the inclusion of fragments and blocks of all sizes, both exotic and native, embedded in a fragmental matrix of finer-grained material.
Carbonate	48	2	A sedimentary rock composed of more than 50% by weight carbonate minerals.
Limestone	49	3	A sedimentary rock consisting chiefly (more than 50% by weight or by areal percentages under the microscope) of calcium carbonate, primarily in the form of the mineral calcite...
Dolomite	50	3	A carbonate sedimentary rock of which more than 50% by weight or by areal percentages under the microscope consists of the mineral dolomite.
Evaporite	51	2	A nonclastic sedimentary rock composed primarily of minerals produced from a saline solution as a result of extensive or total evaporation of the solvent.
Chert	52	2	A hard, extremely dense or compact, dull to semivitreous, microcrystalline or cryptocrystalline sedimentary rock, consisting dominantly of interlocking crystals of quartz less than 30 μm in diameter...
Coal	53	2	A readily combustible rock containing more than 50% by weight and more than 70% by volume carbonaceous material, formed by compaction and induration of variously altered plant remains...
Extrusive rock	54	1	Igneous rock that has been erupted onto the surface of the earth.
Glassy	55	2	Extrusive rock with a texture which is similar to that of glass or quartz and developed as a result of rapid cooling of the lava without distinct crystallization.
Obsidian	56	3	A black or dark-colored volcanic glass, usually of rhyolite composition, characterized by conchoidal fracture.

Vitrophyre	57	3	Any porphyritic igneous rock having a glassy groundmass.
Pumice	58	3	A light-colored vesicular glassy rock commonly having the composition of rhyolite.
Pyroclastic	59	2	...clastic rock material formed by volcanic explosion or aerial expulsion from a volcanic vent.
Ash	60	3	A fine pyroclastic material (under 2.0 mm in diameter). The term usually refers to the unconsolidated material...
Tuff	61	3	Consolidated or cemented volcanic ash.
Ignimbrite	62	3	The deposit of a pyroclastic flow.
Volcanic breccia	63	2	A volcaniclastic rock composed mostly of angular volcanic fragments greater than 2 mm in size.
Felsic flow	64	2	A solidified body of igneous rock having abundant light-colored minerals in its mode, that has been erupted onto the surface of the earth. (working definition)
Rhyolite	65	3	A volcanic rock defined in the QAPF diagram as having Q/(Q+A+P) between 20 and 60% and P/(P+A) between 10 and 65%...
Dacite	66	3	A volcanic rock defined in the QAPF diagram as having Q/(Q+A+P) between 20 and 60% and P/(P+A) > 65%...
Trachyte	67	3	A volcanic rock defined in the QAPF diagram as having Q/(Q+A+P) between 0 and 20% or F/(F+A+P) between 0 and 10%, and P/(P+A) between 10 and 35%. (working definition)
Latite	68	3	A volcanic rock defined in the QAPF diagram as having Q/(Q+A+P) between 0 and 20% or F/(F+A+P) between 0 and 10%, and P/(P+A) between 35 and 65%. (working definition)
Intermediate flow	69	2	A solidified body of igneous rock having approximately equal light- and dark-colored minerals in its mode, that has been erupted onto the surface of the earth. (working definition)
Andesite	70	3	A volcanic rock defined modally by Q/(Q+A+P) between 0 and 20% or F/(F+A+P) between 0 and 10%, P/(A+P) > 65%, and M < 35.
Basaltic andesite	71	3	A volcanic rock defined in the TAS diagram as rock falling in the area bounded by points with the SiO_2 and total alkali coordinates: 52, 0; 52, 5; 57, 0; 57, 5.9.
Mafic flow	72	2	A solidified body of igneous rock having abundant dark-colored minerals in its mode, that has been erupted onto the surface of the earth. (working definition)
Basalt	73	3	A volcanic rock defined modally by Q/(Q+A+P) between 0 and 20% or F/(F+A+P) between 0 and 10%, P/(A+P) > 65 %, and M > 35.
Intrusive rock	74	1	An igneous rock mass formed by the process of emplacement of magma in pre-existing rock.
Aplite	75	2	A light-colored hypabyssal igneous rock characterized by a fine-grained allotriomorphic-granular (i.e. aplitic) texture.
Pegmatite	76	2	An exceptionally coarse-grained igneous rock, with interlocking crystals, usually found as irregular dikes, lenses,

			or veins, esp. at the margins of batholiths.
Granitoid	77	2	A general term for all phaneritic igneous rocks dominated by quartz and feldspars.
Granite	78	3	A plutonic rock with Q between 20 and 60% and P/(A+P) between 10 and 65%.
Granodiorite	79	3	A plutonic rock with Q between 20 and 60% and P/(A+P) between 65 and 90%.
Tonalite	80	3	A plutonic rock with Q between 20 and 60% and P/(A+P) greater than 90%.
Quartz syenite	81	3	A plutonic rock with Q between 5 and 20% and P/(A+P) between 10 and 35%.
Quartz monzonite	82	3	A plutonic rock with Q between 5 and 20% and P/(A+P) between 35 and 65%.
Quartz diorite	83	3	A plutonic rock with Q between 5 and 20%, P/(A+P) greater than 90%, and plagioclase more sodic than An_{50}.
Alkalic intrusive rock	84	2	An igneous rock that contains more sodium and/or potassium than is required to form feldspar with the available silica.
Syenite	85	3	A plutonic rock with Q between 0 and 5% and P/(A+P) between 10 and 35%.
Monzonite	86	3	A plutonic rock with Q between 0 and 5% and P/(A+P) between 35 and 65%.
Mafic intrusive rock	87	2	A plutonic rock composed chiefly of one or more ferromagnesian, dark-colored, minerals in its mode.
Diorite	88	3	A plutonic rock with Q between 0 and 5%, P/(A+P) greater than 90% and plagioclase more sodic than An_{50}.
Gabbro	89	3	A plutonic rock with Q between 0 and 5%, P/(A+P) greater than 90% and plagioclase more calcic than An_{50}.
Norite	90	4	A plutonic rock satisfying the definition of gabbro, in which pl/(pl+px+ol) is between 10 and 90% and opx/(opx+cpx) is greater than 95%.
Troctolite	91	4	A plutonic rock satisfying the definition of gabbro, in which pl/(pl+px+ol) is between 10 and 90% and px/(pl+px+ol) is less than 5%.
Lamprophyre	92	3	A group of porphyritic igneous rocks in which mafic minerals form the phenocrysts; feldspars, if present, are restricted to the groundmass.
Ultramafic intrusive rock	93	2	A general name for plutonic rock with color index M greater than or equal to 90…
Peridotite	94	3	A plutonic rock with M equal to or greater than 90 and ol/(ol+opx+cpx) greater than 40%.
Pyroxenite	95	3	A plutonic rock with M equal to or greater than 90 and ol/(ol+opx+cpx) less than 40%.
Hornblendite	96	3	A plutonic rock with M equal to or greater than 90 and hbl/(hbl+px+ol) greater than 90%.

Carbonatite	97	2	An igneous rock composed of at least 50% carbonate minerals.
Anorthosite	98	2	A plutonic rock with Q between 0 and 5, P/(A+P) greater than 90, and M less then 10. A group of monomineralogic plutonic igneous rocks composed almost entirely of plagioclase feldspar…
Metamorphic rock	99	1	A rock derived from pre-existing rocks by mineralogical, chemical, and/or structural changes, essentially in the solid state, in response to marked changes in temperature, pressure, shearing stress, and chemical environment, generally at depth in the earth's crust.
Hornfels	100	2	A fine-grained rock composed of a mosaic of equidimensional grains without preferred orientation and typically formed by contact metamorphism.
Slate	101	2	A compact, fine-grained metamorphic rock that possesses slaty cleavage and hence can be split into slabs and thin plates.
Metasedimentary	102	2	A sedimentary rock that shows evidence of having been subjected to metamorphism.
Argillite	103	3	A compact rock derived either from mudstone or shale, that has undergone a somewhat higher degree of induration than mudstone or shale but is less clearly laminated than shale and without its fissility, and that lacks the cleavage distinctive of slate.
Quartzite	104	3	A granoblastic metamorphic rock consisting mainly of quartz and formed by recrystallization of sandstone or chert by either regional or thermal metamorphism.
Marble	105	3	A metamorphic rock consisting predominantly of fine- to coarse-grained recrystallized calcite and/or dolomite, usually with a granoblastic, saccharoidal texture.
Metavolcanic	106	2	A volcanic rock that shows evidence of having been subjected to metamorphism.
Greenstone	107	3	A field term applied to any compact dark-green altered or metamorphosed basic igneous rock (e.g. spilite, basalt, gabbro, diabase) that owes its color to the presence of chlorite, actinolite, or epidote.
Keratophyre	108	4	…all salic extrusive and hypabyssal rocks characterized by the presence of albite or albite-oligoclase and chlorite, epidote, and calcite, generally of secondary order.
Spilite	109	4	An altered basalt, characteristically amygdaloidal or vesicular, in which the feldspar has been albitized and is typically accompanied by chlorite, calcite, epidote, chalcedony, prehnite, or other low-temperature hydrous crystallization products characteristic of a greenstone.
Phyllite	110	2	A metamorphosed rock, intermediate in grade between slate and mica schist. Minute crystals of graphite, sericite, or chlorite impart a silky sheen to the surfaces of cleavage (or schistosity).
Schist	111	2	A strongly foliated crystalline rock, formed by dynamic metamorphism, that can be readily split into thin flakes or slabs due to the well developed parallelism of more than 50% of the minerals present, particularly those of the lamellar or

BORING LOG

SITE ID: MW440

CLIENT: BWXT/Mound
SITE NAME: PRS66
PROJECT NO.: 01011.032.045
DRILLING CO.: Boart Longyear
LOGGED BY: L. Funk

ELEV. (GRND): (TOC):
NORTHING:
EASTING:
DEPTH TO WATER (bgs):
TOTAL BORING DEPTH (bgs): 75'

DATE: 8/7/00
DRILL METHOD: Rotosonic
SITE TYPE: Well (x) Boring ( ) Piezo. ( ) Other:

SAMPLE INTERVAL (ft) FROM	TO	RECOVERY DEPTH (ft)		GRAPHIC COLUMN	HEADSPACE PID	COLOR	LITHOLOGIC DESCRIPTION
0							.6' asphalt
						2.5Y5/2 grayish brown	.6' to 1.8'-sand and gravel sub-base with some gravel covered in asphalt tar;
						5Y5/1 gray grades to	1.8' to 5'-clayey silt with 10% medium subrounded gravel; trace limestone cobbles;
	5	3.5'	5			GLEY 1 6/1 gray	firm at 1.8' to hard at 5' bgs;
5							5' to 7.9'-no recovery; hard drilling
						5Y5/3 olive with	7.9' to 10.5'-clayey silt with 15% fine to medium subrounded gravel; trace subangular
						2.5Y5/4 light olive	cobbles; mottled; firm; moist; low plasticity;
	10	2.1'	10			brown	
10							10.5' to 12'-concrete fragments;
						5Y5/3 olive	12' to 14'-silty clay with some sand, cobbles, and brick; moist;
							14' to 14.5'-sub-base gravel;
							14.5' to 14.8'-concrete fragments;
	15	2.8'	15			5Y5/3 olive	14.8' to 15'-clayey silt with 10% medium subrounded gravel;
15						5Y5/2 olive gray	15' to 19'-silty clay loam with 10% fine to medium gravel; some intermixed 1"
							diameter sandy patches; soft; moist; low to medium plasticity;
							19' to 19.5'-dark gray coloration in a clayey sand with some coarse rounded gravel
							interval; no odor; very moist;
						GLEY 1 5/1 gray with	19.5' to 20'- silty clay with 10% coarse rounded gravel; mottled; firm; moist;
	20	4'	20			2.5Y4/1 gray	medium plasticity;
20		0'					20' to 25'-no recovery;
	25		25				
25						5Y4/2 olive gray	25' to 26.5'-silty clay with few gravel; soft; moist; medium plasticity;
							26.5' to 28.8'-clayey gravel with some coarse sand; loose; wet; no plasticity;
							28.8' to 29.5'-silty clay with 10% subangular to subrounded gravel; organics (roots);
							firm; moist; medium plasticity;
	30	5'	30				29.5' to 30'-rounded cobble
30						5Y5/2 olive gray with	30'-34.5'-silty clay with 10% medium subrounded gravel; trace rootets; mottled;
						GLEY 1 6/1 greenish	predominantly moist with some very moist zones along gravel edges;

thick diagonal crosshatch (fill)

LEGEND

Graphic	Soil Type

WESTON MANAGERS DESIGNERS CONSULTANTS

Indent after first & each eruption

BORING LOG

Client: US EPA
Site Name: Mahoningside Power Plant Site
Project Number: 0012-004
Drilling Co.: Summit
Logged By: Kimble

Elev:
Northing:
Easting:
Depth to water: 5 ft
Total boring depth:

Date: 11/27/00
Drill Method: auger/core
Site Type: boring

Sample Interval (Ft)		Recovery	Depth	Graphic Column	Color	Lithologic Description
0		8"	8"		Grey	Concrete - facility floor.
						Intermixed gravels and fine grained sands, some possible fill. Mostly black to dark grey, some red in layers. Phases to clay and soft shale at 46" to 48" BGS.
	4	2	4		lt. grey	soft shale - wet - phases from clay to this layer
5						
			6		lt. grey	Shale - hard - light grey - moist
	8	4	8		dark grey	Shale - hard shale - horizontal fractures- diagonal fracture at approximately 8.5 feet below concrete
10						
	8	4	8		dark grey	Shale-hard
15						
	8	4	8		dark grey	shale - hard - fractures horizontally in the core
20	8	4	8		dark grey	shale - hard
	22				dark grey	hard- large amount of quarts grains - sandstone
	8	4	8		dark grey	

McCabe

McCabe Corporation
Engineering & Contracting
3470 Brecksville Road
Richfield, Ohio 44286
330-659-3550 Fax 330-659-3596

Fax Cover Sheet

To:	US EPA Attn: Mark Durno	**From:**	Tom Antonishak
Fax:	330-399-2178 – job site 440-250-1750 - office	**Pages:**	5 total
Phone:		**Date:**	7-25-2005
Re:	**Mahoningside dewatering**	**CC:**	

Urgent ***For Review*** **Please Comment** **Please Reply** **Please Recycle**

• **Comments:**

Mahoningside dewatering/discharge testing parameters to abide by – last dewatering/discharge event plus PCB analysis. All parameters outlined on included pages. Residential discharge rate of $2.78 per 100 cubic feet (748 gallons)

Also needed: amount intended to discharge / flow rate / discharge location verification / flow meter

Any question please call.

Thanks,

Tom

mccabefx.doc

CITY OF WARREN, OHIO
WATER POLLUTION CONTROL
2323 Main Avenue, SW
Warren, Ohio 44481
330-841-2591
Fax 330-841-2717

NATURE OF THE FAX!

DATE: 7-15-05 **NUMBER OF PAGES (INCLUDING COVER)** 4

TRANSMIT TO: Tom ANTANISHACK

COMPANY / DEPARTMENT: McCABE

PHONE: _____ **FAX:** _____

FROM: Jim Wilder

COMPANY / DEPARTMENT: City of Warren WPC

PHONE: 330-841-2591 ext 103 **FAX:** _____

COMMENTS: ANY questions give ME A CALL

Michael J. O'Brien, Mayor
CITY HALL
391 Mahoning Avenue N.W.
Warren, Ohio 44483
(330) 841-2601

Thomas A. Angelo, Director
Water Pollution Control
2323 Main Street S.W.
Warren, Ohio 44481

Pollutant	Daily Max
Cadmium (total)	1.9500 Mg/l
Chromium (total)	1.5000 Mg/l
Chromium (hex)	1.4000 Mg/l
Copper	0.830 Mg/l
Lead	0.890 Mg/l
Mercury	0.0035 Mg/l
Nickel	1.8000 Mg/l
Silver	1.2000 Mg/l
Zinc	1.2100 Mg/l
Antimony	0.3290 Mg/l
Cyanide (free)	0.3350 Mg/l
Selenium	1.4700 Mg/l
Arsenic	0.200 Mg/l
Molybdenum*	0.699 Mg/l

*As to Alcan Aluminum Corporation only, the limit for Molybdenum is six (6) pounds per day. (Ord. 11784/04. Passed 7-28-04.)

(b) Compatible Pollutant Limitation. No wastewater shall be discharged which exceeds the maximum daily concentration established for the following compatible pollutants without permission from the Superintendent and payment of the appropriate surcharge:

Pollutant	Maximum Daily Concentration (ppm)
BOD	200
COD	600
Ammonia nitrogen	35
Oil and grease (Freon soluble)	100
Phosphate (as P)	15
Solids (total suspended)	250
Solids (total dissolved)	1500
pH	Within the range of 6 to 9 at all times

(Ord. 10740/94. Passed 12-14-94.)

DLZ

A DLZ Company
ENVIRONMENTAL TESTING & COMPLIANCE ANALYSIS
INDUSTRIAL HYGIENE

Client Name: Ohio EPA-NEDO-DERR
Contact: Sue Watkins
Address: 2110 E. Aurora Rd
Twinsburg OH. 44087

Page: Page 3 of 14
Project: Mahoning Side Brownfield (Warren, O
Project #: DCO 010726
Report Date: 08/02/01 15:01

Lab Sample #: C100179-01

Sample Description	Matrix	Sampled Date/Time	Received
Basement	Aqueous	07/26/01 14:30	07/27/01

Analyte(s)	Result	*RDL	Units	Method #	Analysis Date	Analyst	Flag
Conventional Chemistry Parameters by APHA/EPA Methods							
Chemical Oxygen Demand	ND	15	mg/l	EPA 410.4	07/30/01 13:32	EGF	
Cyanide (free)	ND	0.02	mg/l	EPA 335.2	07/31/01 08:12	BDY	
Cyanide (total)	ND	0.02	mg/l	EPA 335.4	07/31/01 08:14	BDY	
pH	8.10		pH Units	EPA 150.1	07/27/01 09:17	EGF	

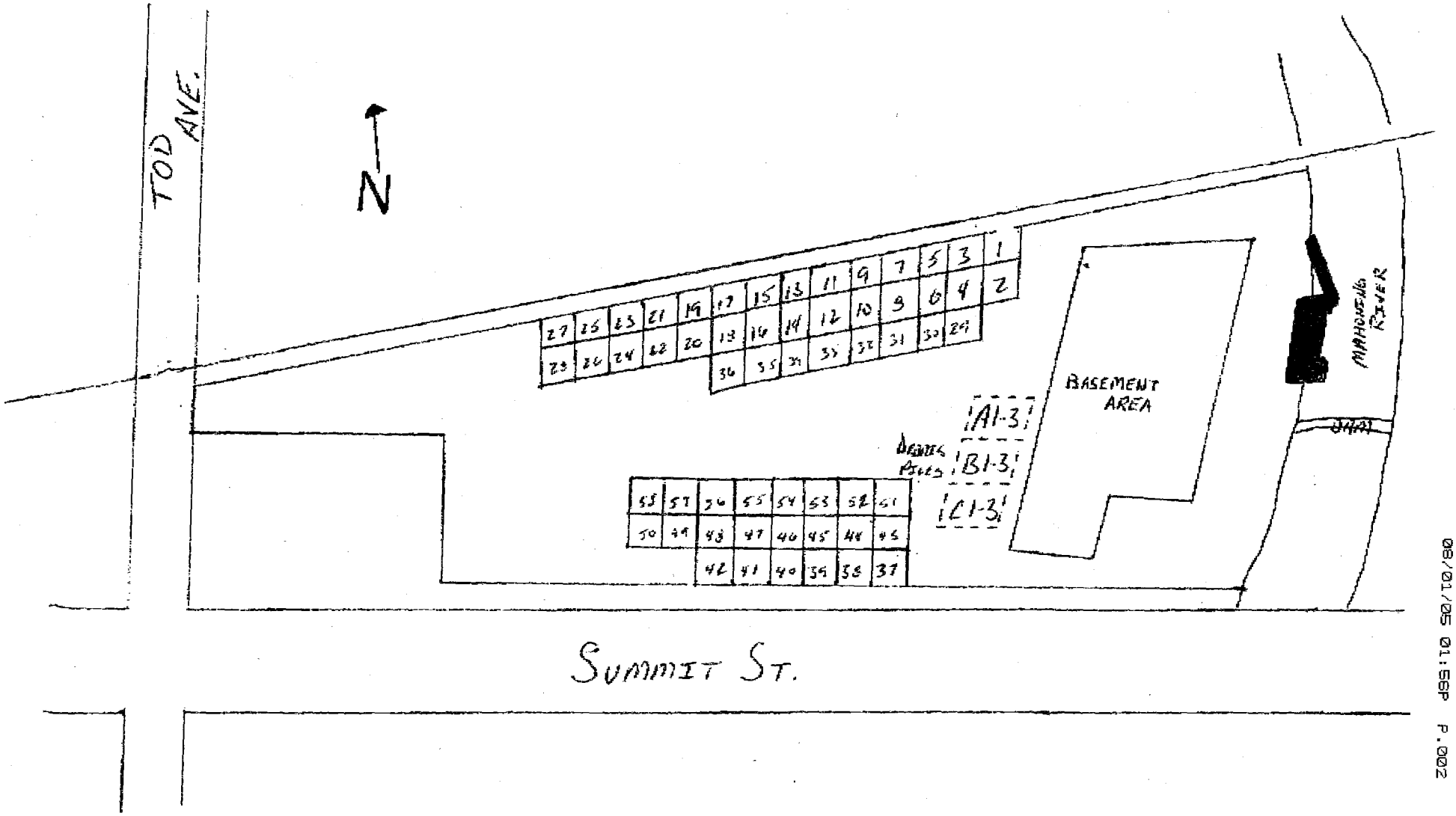
ALSO TEST FOR PCB's

*Reportable Detection Limit

Mallonineside Power

	Type	Loads	Volume
Monday 7/11	Non-Haz	11	220 yds³
	Haz	20	420 yds³
Tuesday 7/12	Non-Haz	10	200 yds³
	Haz	20	420 yds³
Wednesday 7/13	Non-Haz	10	200 yds³
	Haz	21	441 yds³
Thursday 7/14	Non-Haz	10	200 yds³
	Haz	11	231 yds³
Friday 7/15	Non-Haz	21	420 yds³
	Haz	3	63 yds³
Weekly Totals 7/11-7/15	Non-Haz	62	1240 yds³
	Haz	75	1575 yds³
	Total Offsite	137	2815 yds³

Manitowoc Power Plant



Confirmation Sampling Points

Mauntsdale Power

Monday	7/18	Non Haz	20	200 yds^3
Tuesday	7/19	Non-Haz	22	440 yds^3
Wednesday	7/20	Non-Haz	27	540 yds^3
Thursday	7/21	Non-Haz	27	540 yds^3
Friday	7/22	Non-Haz	22	440 yds^3
Weekly Total	7/18/05 - 7/22/05	Non-Haz	118	2160 yds^3

WESTON SOLUTIONS
Restoring Resource Efficiency

Weston Solutions, Inc.
6777 Engle Road, Ste. C
Middleburg Heights, Ohio 44130
Phone: (440) 239-1978
Fax: (440) 239-1973

To: OSC DURNO

Recipient's Fax: 330 399 2178

Recipient's Phone: _____

From: A. RAVIS

Originator's Phone: 440 225 5985

Total Pages: 5 (incl. cover)

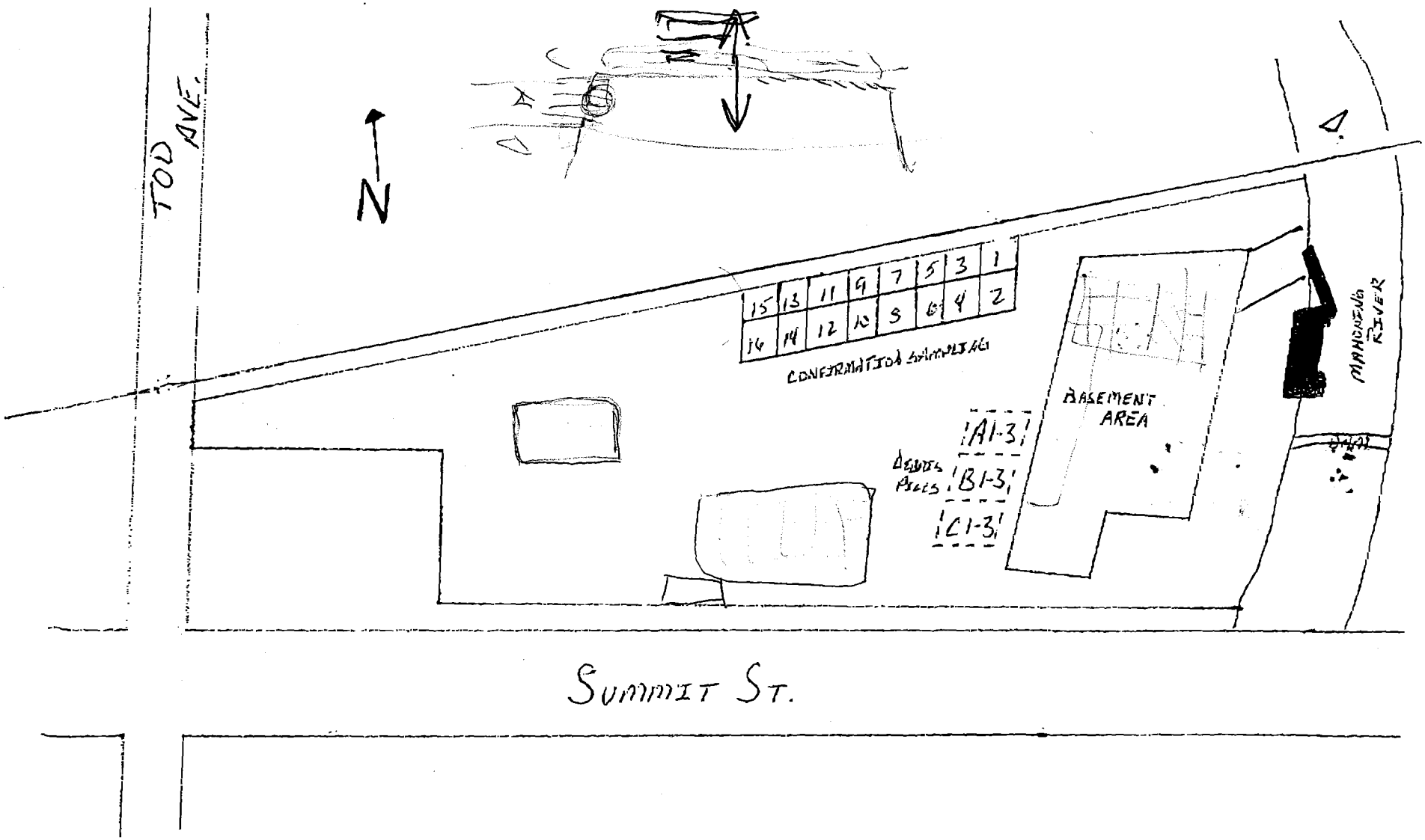
Date: 5/19/05

W.O. #: _____

MAHONINGSIDE POWER PLANT CONFIRMATION SAMPLING RESULTS & SAMPLE LOCATIONS MAP.

PLEASE NOTIFY IF CHANGES ARE NEEDED.

BILL TOTTEN / ENG.
841-2652


TOD AVE.
N
15 13 11 9 7 5 3 1
16 14 12 10 8 6 4 2
CONFIRMATION SAMPLING
BASEMENT AREA
A1-3'
Debris Piles B1-3'
C1-3'
MISSISSIPPI RIVER
SUMMIT ST.

CONFIRMATION SOIL

EXECUTIVE SUMMARY - Detection Highlights

ASD260251

SAMPLE POINT	PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
1	YARD-042605-1 04/26/05 09:30 001				
	PCB-1254	5300	330	ug/kg	SW846 8082
	Percent Solids	76.7	10.0	%	MCAWW 160.3 MOD
2	YARD-042605-2 04/26/05 09:33 002				
	PCB-1260	2600	160	ug/kg	SW846 8082
	Percent Solids	85.8	10.0	%	MCAWW 160.3 MOD
3	YARD-042605-3 04/26/05 09:36 003				
	PCB-1260	6100	330	ug/kg	SW846 8082
	Percent Solids	74.4	10.0	%	MCAWW 160.3 MOD
4	YARD-042605-4 04/26/05 09:39 004				
	PCB-1260	21000	1600	ug/kg	SW846 8082
	Percent Solids	82.9	10.0	%	MCAWW 160.3 MOD
5	YARD-042605-5 04/26/05 09:42 005				
	PCB-1260	1400	160	ug/kg	SW846 8082
	Percent Solids	79.5	10.0	%	MCAWW 160.3 MOD
6	YARD-042605-6 04/26/05 09:45 006				
	PCB-1260	3100	160	ug/kg	SW846 8082
	Percent Solids	85.1	10.0	%	MCAWW 160.3 MOD
7	YARD-042605-7 04/26/05 09:48 007				
	PCB-1260	2800	160	ug/kg	SW846 8082
	Percent Solids	84.8	10.0	%	MCAWW 160.3 MOD
8	YARD-042605-8 04/26/05 09:51 008				
	PCB-1260	4200	330	ug/kg	SW846 8082
	Percent Solids	84.5	10.0	%	MCAWW 160.3 MOD
9	YARD-042605-9 04/26/05 09:54 009				
	PCB-1260	4800	330	ug/kg	SW846 8082
	Percent Solids	85.8	10.0	%	MCAWW 160.3 MOD

(Continued on next page)

CONFIRMATION SOIL

EXECUTIVE SUMMARY - Detection Highlights

A5D260251

	PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
10	YARD-042605-10 04/26/05 09:57 010				
	PCB-1260	2400	160	ug/kg	SW846 8082
	Percent Solids	86.1	10.0	%	MCAWW 160.3 MOD
11	YARD-042605-11 04/26/05 10:00 011				
	PCB-1260	13000	660	ug/kg	SW846 8082
	Percent Solids	86.5	10.0	%	MCAWW 160.3 MOD
12	YARD-042605-12 04/26/05 10:03 012				
	PCB-1260	1200	66	ug/kg	SW846 8082
	Percent Solids	84.0	10.0	%	MCAWW 160.3 MOD
13	YARD-042605-13 04/26/05 10:06 013				
	PCB-1260	14000	820	ug/kg	SW846 8082
	Percent Solids	83.3	10.0	%	MCAWW 160.3 MOD
14	YARD-042605-14 04/26/05 10:09 014				
	PCB-1260	8900	660	ug/kg	SW846 8082
	Percent Solids	87.4	10.0	%	MCAWW 160.3 MOD
15	YARD-042605-15 04/26/05 10:12 015				
	PCB-1260	4200	330	ug/kg	SW846 8082
	Percent Solids	84.5	10.0	%	MCAWW 160.3 MOD
16	YARD-042605-16 04/26/05 10:15 016				
	PCB-1260	15000	1300	ug/kg	SW846 8082
	Percent Solids	84.9	10.0	%	MCAWW 160.3 MOD

CONCRETE CORE DEBRIS

EXECUTIVE SUMMARY - Detection Highlights

A5D270304

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
CC-042705-B1 04/27/05 09:22 004				
Aroclor 1260	11000	630	ug/kg	SW846 8082
CC-042705-B3 04/27/05 09:30 006				
Aroclor 1260	84 J	110	ug/kg	SW846 8082
CC-042705-C1 04/27/05 09:34 007				
Aroclor 1260	820	99	ug/kg	SW846 8082
CC-042705-C2 04/27/05 09:38 008				
Aroclor 1260	2800	200	ug/kg	SW846 8082
CC-042705-C3 04/27/05 09:42 009				
Aroclor 1260	380	69	ug/kg	SW846 8082

A1-3 = ND
B2 = ND

1. March 23, 2000- PCBs in shale: **4,500-**

   March 30, 2000- Confirmatory PCBs in shale: **15,000 ppm**
2. November 22, 1999- PCBs in sediment: **276 ppm**
3. April 6, 2000- Depressed slab (decant area), PCBs in drain: **65.5 ppm**
4. November 22, 1999- Electrical Room, PCBs in sediment: **295 ppm**
5. November 5, 1999- PCBs in sediment: **33.8 ppm**
6. April 6, 2000- PCBs in drain: **1,820 ppm**
7. April 6, 2000- Sump #3, PCBs in debris at 6 feet: **432 ppm**
8. April 6, 2000- Catch Basin PCBs in debris at 4 feet: **24.5 ppm**
9. April 6, 2000- PCBs in drain: **147,000 ppm**
10. April 24, 2000- Composite sample (2 locations) in vault (penstock from s. screen house) PCBs **non-detect**

11. April 24, 2000- Sump #2 (north vault sump) PCBs in sediment: **64.8 ppm**
12. April 25, 2000- Sump #1 (south sump) sediment sample from base of sump (USEPA)
13. April 25, 2000- Sump #1 (south sump) sample from break in the wall (USEPA)
14. April 25, 2000- Sump #4 sample from beneath floor slab (USEPA)
15. April 24, 2000- Sediment sample at base of retaining wall in small spillway PCBs **57.4 ppm,** TPH-DRO 5,800 ppm, total mercury 1.15 ppm
16. April 25, 2000- Sample of soil and debris in pit, VOC analysis: non-detect
17. April 25, 2000- Sediment sample from river at discharge pipe: PCBs **224 ppm**
18. April 27, 2000- Sediment sample from discharge pipe in power house: PCBs **4,300 ppm**
19. April 27, 2000- Sediment sample from below Summit Street Bridge: PCBs **1.4 ppm,** total mercury 0.143 ppm
20. April 27, 2000- Sediment sample from within discharge pipe at the river: PCBs **212 ppm**
21. May 10, 2000- Sample of soil in Sump #9, near the west wall of the boiler house: **PCB analysis, non-detect**

Geo Analytical, Inc.

9253 Ravenna Rd. Suite A-7
Twinsburg, OH 44087
Phone Number 330 963 6990
Fax Number 330 963 6975

CHAIN OF CUSTODY RECORD 0004138

COMPANY NAME AND ADDRESS	McCabe Engineering 5470 Brecksville Road Richfield oh 44286						PROJECT NUMBER AND DESCRIPTION:	Mahoning Site 9823										
SAMPLER SIGNATURES:								Analysis Requested									VAP	
STA.#	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	Pb Only											NOTES
4/27-01	4-27-00	9:00		X	Discharge Pipe in S.H.	1	✓					1						Results by
4/27-02	4-27-00	10:30		X	Sediments under bridge	1	✓					2						Monday
4/27-03	4-27-00	4:00		X	Discharge @ River	1	✓					3						5-1-00

CHAIN OF CUSTODY SIGNATURES (Name/Company, Date, Time)

1. Relinquished By: [signature] 4/28/00 8:00
   Received By: _____
2. Relinquished By: _____
   Received By: _____
3. Relinquished By: _____
   Received By: _____
4. Submitted to Laboratory By: _____
   Received for Laboratory By: J Calgrano 4/28/00 @ 8:00am

GEO Analytical, Inc.

Date: 28-Apr-00

CLIENT:	McCabe Engineering	**Client Sample ID:**	Discharge pipe in PH
Lab Order:	0004138	**Tag Number:**	Rush
Project:	9823 Mahoningside	**Collection Date:**	4/27/00
Lab ID:	0004138-01A	**Matrix:**	SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS IN SOIL		SW8081				Analyst: DR
Aroclor 1016	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1221	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1232	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1242	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1248	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1254	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1260	4300	1.00		mg/Kg	1	4/28/00
Surr: Decachlorobiphenyl	96.0	31.3-147		%REC	1	4/28/00
Surr: Tetrachloro-m-xylene	78.9	37.4-130		%REC	1	4/28/00

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits

J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank; E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level

PRELIMINARY

GEO Analytical, Inc.

Date: *28-Apr-00*

CLIENT:	McCabe Engineering	**Client Sample ID:**	Sediment under bridge
Lab Order:	0004138	**Tag Number:**	Rush
Project:	9823 Mahoningside	**Collection Date:**	4/27/00
Lab ID:	0004138-02A	**Matrix:**	SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS IN SOIL		**SW8081**				**Analyst: DR**
Aroclor 1016	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1221	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1232	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1242	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1248	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1254	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1260	1.04	1.00		mg/Kg	1	4/28/00
Surr: Decachlorobiphenyl	91.2	31.3-147		%REC	1	4/28/00
Surr: Tetrachloro-m-xylene	87.7	37.4-130		%REC	1	4/28/00

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits

J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank; X - Value above quantitation range

* - Value exceeds Maximum Contaminant Level

PRELIMINARY

GEO Analytical, Inc.

Date: *28-Apr-00*

CLIENT:	McCabe Engineering	**Client Sample ID:**	Discharge @ river
Lab Order:	0004138	**Tag Number:**	Rush
Project:	9823 Maknuigside	**Collection Date:**	4/27/00
Lab ID:	0004138-03A	**Matrix:**	SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS IN SOIL		SW8081				Analyst: DR
Aroclor 1016	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1221	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1232	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1242	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1248	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1254	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1260	212	1.00		mg/Kg	1	4/28/00
Surr: Decachlorobiphenyl	98.2	31.3-147		%REC	1	4/28/00
Surr: Tetrachloro-m-xylene	87.6	37.4-130		%REC	1	4/28/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below Quantitation Limit

B - Analyte detected in the associated Method Blank

E - Value above Quantitation Range

* - Value exceeds Maximum Contaminant Level

BACKGROUND

Upon initial mobilization of the Mahoningside site in February of 1999, McCabe Corporation has successfully completed the demolition and dismantling of the two smoke stacks, suspended coal hopper, power house, boiler house and boilers and successfully halted the majority of water influx from the adjacent Mahoning River. Subsequent to the above grade activities, limited activities were performed to better identify and access sub-grade areas. Limited excavation was performed within the northern portion of the boiler house to create a safe work platform for the removal of the boilers. In addition, an attempt was made to cut a ramp into the western side of the boiler house to allow ingress and egress to the boiler house basement. During the limited sub-grade activities, unexpected typical asbestos containing materials were discovered intermingled with the soils. Negotiations regarding management of the ACM soils could not be agreed on, therefore, activities were ceased and excavated asbestos containing soils remained stockpiled on-site (approximately 3,000 cubic yards) and the project was delayed several months. Locations of stock piled materials and their origin can be found on the site plan in Figure 1.

McCabe Corporation re-mobilized the site, November of 1999, to better define a comprehensive scope of work, and qualification and quantification of materials within the basement structures needed to be made. McCabe gridded the basement levels and employed a sampling strategy biased towards areas of potential contamination and areas, which could be safely accessed. Selective sampling was performed in the northern boiler house basement area and throughout the powerhouse basement. A site plan showing the gridding and sampling locations is found in Figure 2. Materials in the basement levels of the power house, boiler house, screen house, screen house tunnel, and vault were quantified in two categories--sediment and debris.

SAMPLING AND ANALYSIS

Power House Basement

On Friday, November 5, McCabe Engineering obtained investigative sediment (soil) samples from various locations in the northern third of the power house basement. The samples were taken in four (4) locations to the concrete floor underlying the 24"-28" sediment layer. In each sampling location (P-1, P-2, P-3, & P-4 [P-5 Duplicate]) the retrieved soils were composited, placed in 8 oz. glass jars and submitted for analysis for PCBs (8081), TPH (418.1) and Total RCRA Metals. Each of the four samples indicated elevated levels of most metals particularly lead and mercury. PCBs (Aroclor 1260) was identified at sampling location P-2 at a concentration of 2.12 parts per million (PPM). According to OEPA-NEDO the 2.12-PPM is below the TSCA action level of 50 PPM thus not regulated by TSCA and considered a solid waste. Low levels of TPH were identified in all sampling locations.

To delineate areas of contamination in the power house basement further sampling was performed in the same manner as the sampling activity on November 5, 1999.

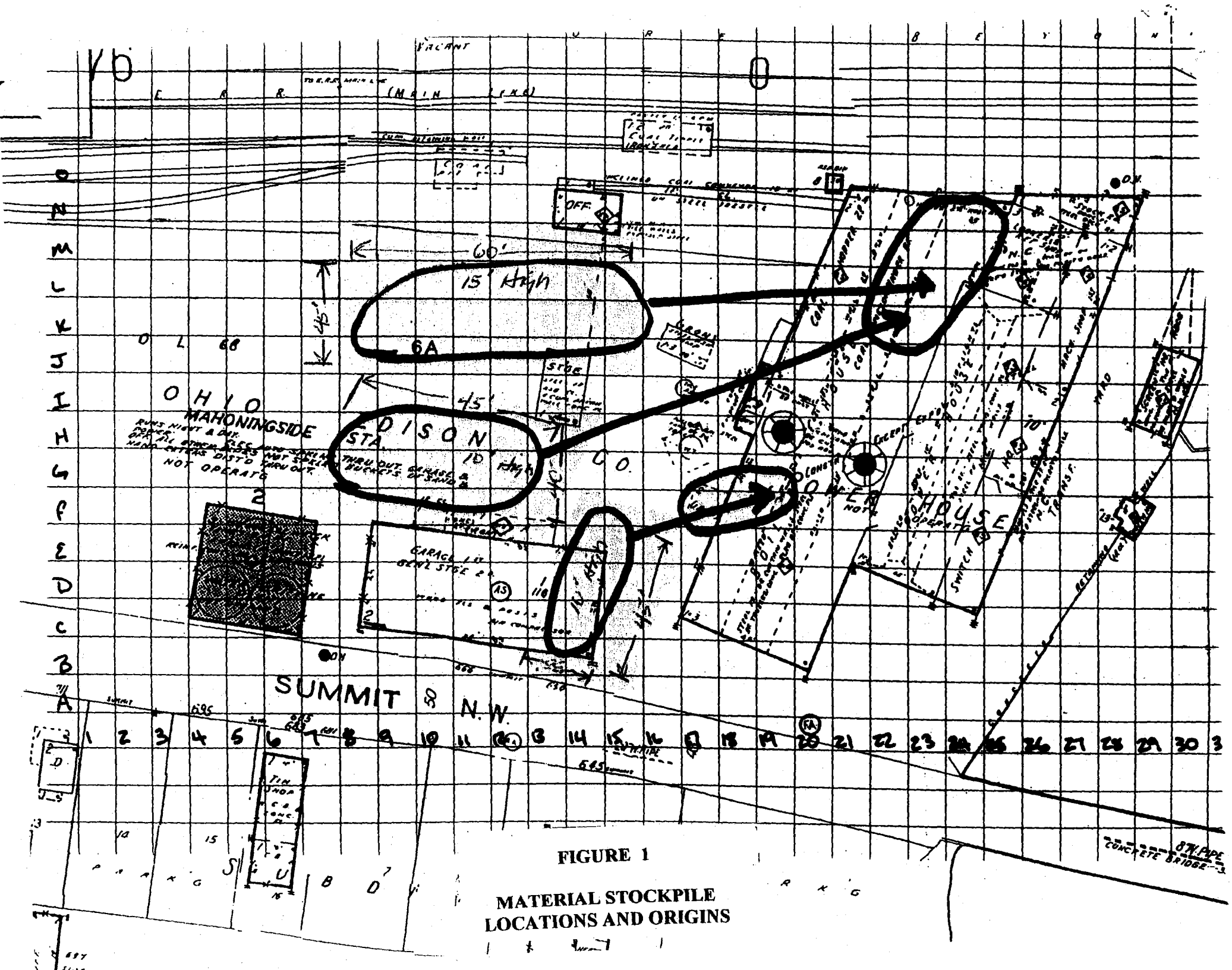


FIGURE 1

MATERIAL STOCKPILE LOCATIONS AND ORIGINS

Discussions with Mr. Rod Beals, OEPA-NEDO indicated that if the sediments displayed elevated levels of metals contamination (per TCLP analysis), the movement of the sediments would be limited to the footprint of the structure, based on RCRA hazardous waste regulations. The material may not be excavated out, stockpiled or containerized, if so, applicable waste regulations would go into effect. However, Mr. Beals did indicate, after consultation with Ms. Nancy Zikmanus, OEPA-NEDO, that as long as the materials remain within the footprint of the building the material is not subject to waste regulations.

Moving the materials from one location of the basement to the other (within the footprint) would be counter-productive and cost prohibitive. In order to facilitate the most cost-effective approach to handling the contaminated sediments, the decision was made to better *qualify* the sediments relative to RCRA waste issues. The sediments were analyzed for TCLP RCRA metals rather than the original Total Metals analysis. On Friday, November 12, McCabe Engineering obtained sediment (soil) samples from various locations in the central third of the power house basement. The samples were taken in six (6) locations to the concrete floor underlying the 24"-28" sediment layer. In each sampling location (P-6, P-7, P-8 [P-8-D, Duplicate], P-9, P-10, & P-11) the retrieved soils were composited, placed in 8 oz. glass jars and submitted for analysis for PCBs (8081) and TCLP RCRA Metals. All samples exhibited low levels of Barium and non-detect in the remaining metals parameters. All samples were non-detect for PCB concentrations.

Based on the consistency of the metals contamination (Total Metals Analysis) identified in the initial sampling and the non-detect levels (TCLP analysis) in the second round of sampling, the decision was made that the sediments are of a homogeneous nature and may be handled as a non-hazardous waste.

On November 21, 1999 three additional samples (P-12, P-13 and P-14) were taken in the southern portion of the power house basement in the same manner as previous sampling activities. Sample P-14 was taken outside the main basement structure within a small corridor. Sample results for P-12 and P-13 were non-detect for PCB concentrations and sample P-14 reported a concentration of 276 PPM. On November 24, 1999, one composite sample (P-15) was taken in the southern area near the floor drain / sump crock area and submitted for PCB analysis, Method 8081. The reported concentration for P-15 was 19.2 ppm, PCB Aroclor 1260, below the action level of 50 ppm.

On February 8, 2000 a composite sediment sample (SHV-001) was taken from the north screen house and the vault and analyzed for SVOC's, VOCs, Total Metals, PCBs and asbestos.

On March 23, 2000 a sediment sample (323-001) was taken from a newly discovered vault and analyzed for PCBs. Analytical results indicated a non-detect for PCBs.

Please refer to the site plan in Figure 2 for sampling locations.

Analytical results for the power house can be found in Tables 1, 1a, and 1b.

Boiler House Basement

Three sediment (soil) samples were taken in the northeast section of the boiler house basement, at the 0', 25, and 50' marks respectively, to the concrete floor underlying the 24"-28" sediment layer. Composite samples were analyzed for PCBs, TPH and RCRA Metals. Each of the three samples indicated elevated levels of most metals particularly lead and mercury. PCBs (Aroclor 1260) were identified at all three sampling locations. Sampling locations B-1, B-2, B-3 indicated PCB at levels of 33 ppm, 5 ppm and 3 ppm, respectively. Mr. Beals also, indicated that since the levels are below 50 PPM the materials might be handled as a solid waste. Mr. Kendell Moore of the USEPA, Region 5 indicated that according to USEPA regulations, if a source of PCB contamination is identified, further sampling might be performed at the source to determine if levels are present at a higher concentration. If the source samples fall below the TSCA action level of 50 ppm, then all materials will be managed the same way as outlined for the power house basement area, a solid waste.

Attempts to accurately identify a source of PCB contamination were inconclusive due to the various reports of possible sources. During the Phase I ESA process it was reported that the former owner scrapped transformers on-site and dumped the oils into a pit. To date the pit has not been discovered. In addition, the report indicated historic transformer usage throughout the subject property. An Ohio EPA report has identified PCB contamination in various areas of the Mahoning River. The Mahoning River channeled water through the basement areas of the facility for years. Another potential source (transformer) was identified approximately 20 feet northeast of sample location B-1. Earlier this year, when the basement levels were inundated with water from the Mahoning River, a water sample was taken (by others) in the transformer and results were non-detect for PCBs. McCabe performed a visual observation of the transformer and discovered a valve at the base of the transformer. On November 22, 1999, a composite soil sample was collected at this location (B-1-A). Another composite soil sample was collected (B-1-B) approximately midway between B-1 and B-1-A. B-1-A reported an Aroclor PCB concentration of 295 PPM and sample B-1-B, 85.6 PPM.

On November 24, 1999, additional sampling was conducted in the boiler house in accessible areas. Samples B-4, B-5, and B-6 were taken below the ash hoppers between the 75' and 100' marks. Going in a southern direction, sample B-7 was taken at about the 155' mark and sample B-8 was taken approximately 40' further south. (Note: the sediments in these sampling locations are approximately 4 inches deep). The samples were submitted for PCB analysis, Method 8081. Analytical results for samples B-4, B-5, B-6, B-7, and B-8 submitted for this sampling event reported non-detect levels for PCBs.

On March 23 a grab sample was taken from an area in the northern portion of the boiler house. An area of broken up concrete was excavated to a depth of approximately 2 feet in an effort to determine the reason for the condition of the concrete. During the excavation a distinct PCB odor was recognized. A grab sample (323-001) was taken of the natural shale and submitted to the lab for PCB analysis. In between the shale layer,

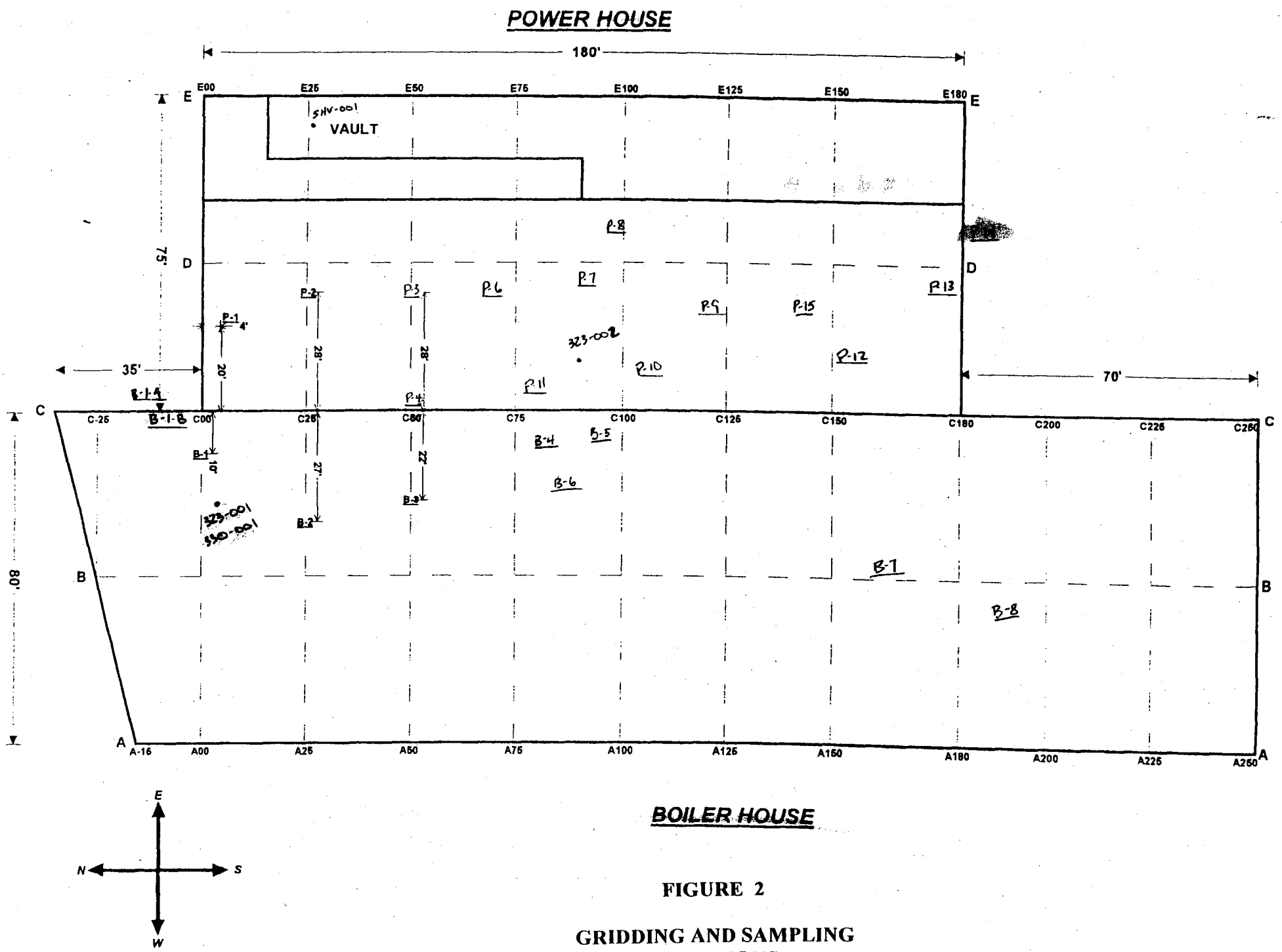


FIGURE 2

GRIDDING AND SAMPLING LOCATIONS

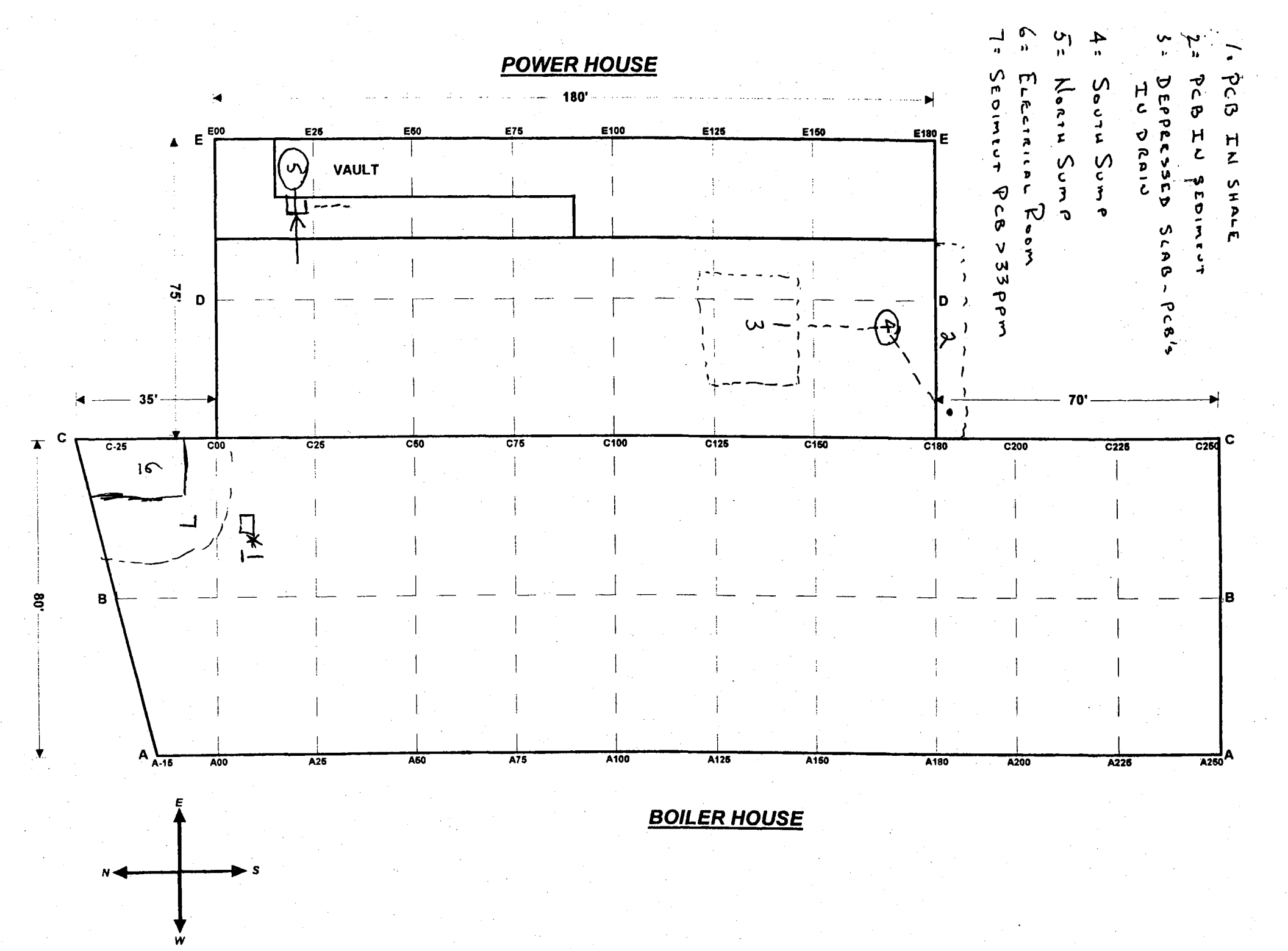

POWER HOUSE
180'
E00
E25
E50
E75
E100
E125
E150
E180
VAULT
5
75'
D
3
4
2
35'
70'
C
C-25
C00
C25
C50
C75
C100
C125
C150
C180
C200
C225
C250
16
7
1
80'
B
A
A-15
A00
A25
A50
A75
A100
A125
A150
A180
A200
A225
A250
1. PCB IN SHALE
2= PCB IN SEDIMENT
3= DEPRESSED SLAB - PCB's TO DRAIN
4= SOUTH SUMP
5= NORTH SUMP
6= ELECTRICAL ROOM
7= SEDIMENT PCB >33PPM
E
N
S
W
BOILER HOUSE

TABLE 1 POWER HOUSE SAMPLING AND ANALYSIS SUMMARY

	PCB Aroclor 1260	Mercury	Arsenic	Barium	Cadmium	Chromium	Lead	Silver	Selenium	TPH 418.1
		Total Metals Analysis								
P-1	ND	0.248	23.1	704	1.42	63.4	180	ND	ND	236
P-2	2.12	0.361	58.1	421	1.86	53	335	ND	ND	150
P-3	ND	0.105	17.9	707	0.870	62.9	181	ND	ND	68.1
P-4	ND	0.371	142	190	0.951	66.3	224	ND	ND	1500
P-5 Duplicate	ND	0.375	88.6	155	0.725	64.4	133	ND	ND	228
	[illegible]	Mercury	Arsenic	Barium	Cadmium	Chromium	Lead	Silver	Selenium	
		RCRA Metals TCLP Analysis								
P-6	ND	ND	ND	0.488	ND	ND	ND	ND	ND	
P-7	ND	ND	ND	0.55	ND	ND	ND	ND	ND	
P-8	ND	ND	ND	0.562	ND	ND	ND	ND	ND	
P-9	ND	ND	ND	0.46	ND	ND	ND	ND	ND	
P-9-D Duplicate	ND	ND	ND	0.471	ND	ND	ND	ND	ND	
P-10	ND	ND	ND	0.647	ND	ND	ND	ND	ND	
P-11	ND	ND	ND	0.494	ND	ND	ND	ND	ND	
P-12	ND									
P-13	ND									
P-14	276									
P-15	19.2									

All analytical results in parts per million (PPM)
ND = Non-Detect

P = Power house basement

Table 1a

	PCB Aroclor 1260	Mercury	Arsenic PPM	Barium PPM	Cadmium PPM	Chromium PPM	Lead PPM	Silver	Selenium
SHV-001	ND	ND	9.8	141	0.686	86.1	59.8	ND	ND
323-002	ND								

Table 1b

	Asbestos	VOC's Acetone PPB	VOCs Methylene Chloride PPB	TPH PPM
SHV-001	ND	118	8.01	124

ND = Non-Detect

noticeable brown material was seeping from the shale with the groundwater. Analytical results indicated PCB concentrations of 4,500 PPM Aroclor 1260.

At the request of Montgomery Watson a second sample (330-001) was taken and sent to another lab for confirmation. On March 29, 2000 a second grab sample was taken from the same location and submitted to a different lab. The analytical result from the subsequent sample was 15,000 PPM aroclor 1260.

Please refer to the site plan in Figure 2 for sampling locations.

Analytical results for the boiler house can be found in Table 2.

Asbestos Containing Materials

An ACM survey conducted in January of 1997 (by others) confirmed that ACM in the form of thermal systems insulation (TSI) was identified on piping systems throughout the power house basement and was determined to be in poor condition. A thorough assessment of the ACM in the southern part of the boiler house could not be made due to limited access. Since the 1997 ACM survey, McCabe has performed visual assessments and identified typical ACM on ash hoppers and piping systems in the southern boiler house basement.

During recent sediment sampling activities, typical friable asbestos containing materials (ACM) were visible in the sediments (soils). Presumably a result from past demolition and scrapping activities performed by the former owner. The continued disturbance of dry, friable ACM could result in a "snowing effect", dispersing ACM throughout the basement levels of the structures. As selective debris removal activities progress, asbestos containing materials will be abated, as they become safely accessible. Abatement activities will be performed by Ohio Department of Health (OdoH) licensed personnel and in accordance with OdoH, EPA, and OSHA guidelines.

TASKS

The goal of this portion of the project is to secure the power house and boiler house basement areas and eliminate migration pathways. To facilitate this, the following activities will be performed within EPA regulatory guidelines:

- Clamming and picking of rubble, debris and steel and depositing it at the surface.
- Decontamination of steel and other materials with visible ACM contamination.
- Remove and properly containerize PCB contaminated materials and manage and dispose in accordance with local, state and federal guidelines.
- Assess areas of PCB contamination and determine de-contamination procedures.

TABLE 2 BOILER HOUSE SAMPLING AND ANALYSIS SUMMARY

	PCB's Aroclor 1260	Mercury	Arsenic	Barium	Cadmium	Chromium	Lead	TPH 418.1
		Total Metals Analysis						
B-1	33.8	2.58	214	295	1.45	66.8	283	412
B-2	5.03	ND	81.9	122	ND	86.4	266	433
B-3	3.03	0.405	514	187	20.02	62.1	401	411
[redacted]								
[redacted]								
B-4	ND							
B-5	ND							
B-6	ND							
B-7	ND							
B-8	ND							
B-9 Duplicate	ND							
[redacted]	4,500							
[redacted]	15,000							

All analytical results in parts per million (PPM)
ND = Non-Detect

B = Boiler house basement

- If friable asbestos containing materials are identified during these activities necessary precautions will be taken to eliminate fiber release and containerize the ACM in appropriate receptacles.
- Perform assessment of potential migration pathways and seal as appropriate.
- Complete abatement of remaining ACM identified on structural and/or building components.
- Prepare basement as necessary to allow for backfilling of excavated materials.

All tasks associated with the successful completion of this project will be performed utilizing practical and cost effective methods and in accordance with all applicable regulatory guidelines, programs, and engineering options.

HEALTH and SAFETY

While performing initial limited removal of scrap steel, rubble and other items from the power house and boiler house basement areas the following will be followed:

Personal Protective Equipment

Level D Protective Clothing

Steel toe / shank boot with outer rubber boot
Ordinary outdoor clothes with designated work coverall
Leather gloves
Hard hat / safety glasses

Note: Due to potential fire hazards, outer rubber boots and Tyvek type suits will not be worn during burning activities.

Field Monitoring Equipment

While performing preliminary clamming, picking, burning and scrapping of "clean materials" in the basement, area air samples will be collected using low volume air sampling pumps. Samples will be analyzed by Phase Contrast Microscopy (PCM) for asbestos analysis.

When exiting the work area, employees will doff the outer coveralls, gloves and rubber outer boots at the designated location, and leave in the designated container for the next day's activities.

Decontamination

Any tools, equipment, materials PPE (boots), which are used in the basement areas and are to be removed from the work area must be de-contaminated at the designated location. If they are not to be removed immediately they may remain in the designated

work storage location. Decontamination will consist of scrubbing the items in a mixture of distilled water and Alconox detergent and double rinsed. Decontamination water shall be collected in a designated leak proof container.

Task Risk Analysis

Dermal protection and protection from physical hazards associated with this activity are provided by wearing steel toe boots, outer rubber boots, outer coveralls and leather gloves. If bulk ACM is encountered or if a release of ACM occurs, the designated competent person will be notified and appropriate measures will be taken to mitigate the incident.

CONCLUSIONS

The purpose for successfully completing this project is by taking a common sense approach from both regulatory and financial perspectives. The comprehensive sampling and analysis strategy has confirmed that the sediments, rubble and other debris located in the power house are not considered RCRA hazardous waste and will be managed accordingly. An isolated area beyond the southern foundation wall of the power house has elevated levels of PCB contamination above action levels. A further delineation of this area will be performed and the appropriate response actions will be taken.

The area identified in the north east section of the boiler house has elevated levels of contamination above action levels. Due to the convoluted issues in determining a definitive source of contamination in this area a thorough investigation in the vicinity of the initial sampling was performed. Attempts to accurately identify a source of PCB contamination were inconclusive due to the various reports of possible sources. During the Phase I ESA process it was reported that the former owner scrapped transformers on-site and dumped the oils into a pit. To date the pit has not been discovered. In addition, the report indicated historic transformer usage throughout the subject property. An Ohio EPA report has identified PCB contamination in various areas of the Mahoning River. The Mahoning River channeled water through the basement areas of the facility for years. Another potential source (transformer) was identified approximately 20 feet northeast of sample location B-1. Earlier this year, when the basement levels were inundated with water from the Mahoning River, a water sample was taken (by others) in the transformer and results were non-detect for PCBs.

McCabe performed a visual observation of the transformer and discovered a valve at the base of the transformer. On November 22, 1999, a composite soil sample was collected at this location (B-1-A). Another composite soil sample was collected (B-1-B) approximately midway between B-1 and B-1-A. B-1-A reported an Aroclor PCB concentration of 295 PPM and sample B-1-B, 85.6 PPM. Consequently, discussions of the further findings resulted in the decision to manage materials identified in B-1, B-1A, and B-2B as PCB contaminated. The materials in this area will be managed and disposed as PCB contaminated materials in accordance with applicable local, state and federal guidelines. The two areas will be assessed to determine proper de-contamination procedures of associated substrates.

In March high levels of PCB contamination was detected in the shale layer below the floor in the boilerhouse basement. At this time correspondence with regulatory agencies is being conducted to decide on the appropriate response actions.

The goal from a financial perspective is to re-deposit the excavated non-PCB contaminated materials back into the footprint of the basement structures, once migration pathways are discovered and eliminated. In addition to the power house and boiler house basements, contiguous basement areas may be utilized for re-depositing materials (i.e. screen house, screen house tunnel and vault). Preliminary calculations by McCabe indicated the following approximate holding capacities of these structures:

• Power house	7,500 cubic yards
• Boiler house – north	3,200 cubic yards
• Boiler house – south	4,700 cubic yards
• Screen house	800 cubic yards
• Tunnel	150 cubic yards
• Vault	310 cubic yards
Total Capacity	16,660 cubic yards

MAHONINGSIDE POWER PLANT PROJECT
AIR MONITORING DATA

Sample Date	Sample Number 9823-	Sample Type	Sample Location	Sample Rate L/m	Monitoring Period			Sample Volume (liters)	Pump ID 906-	Calibration		Total Airborne Concentration Fibers/cc
					Start	End	Total (min)			Date	Type	
11-5-99	001	Personal	Jim Wylie, operator	2.0	8:20	16:10	470	940	310	11-5-99	R	<0.005
11-5-99	002	Area	Power house basement	2.0	8:23	16:13	470	940	502	11-5-99	R	<0.005
11-5-99	003	Area	Boiler house basement	2.0	8:27	16:15	468	936	319	11-5-99	R	<0.005
11-5-99	004	Blank										----------
11-5-99	005	Blank										----------
11-10-99	006	Personal	Jim Wylie, operator	2.0	10:02	15:16	354	708	310	11-8-99	R	<0.005
11-10-99	007	Area	West of B/h basement	2.0	10:04	15:52	348	696	319	11-8-99	R	<0.005
11-10-99	008	Area	Power house basement	2.0	10:05	15:53	348	696	324	11-8-99	R	<0.005
11-10-99	009	Blank										----------
11-10-99	010	Blank										----------
11-11-99	011	Personal	Jim Wylie, operator	2.0	9:45	15:55	370	740	310	11-11-99	R	<0.005
11-11-99	012	Area	West of B/h basement	2.0	9:46	15:46	360	720	319	11-11-99	R	<0.005
11-11-99	013	Area	East P/h basement	2.0	9:48	15:45	357	714	324	11-11-99	R	<0.005
11-11-99	014	Area	Center P/h basement	2.0	9:50	15:50	360	720	487	11-11-99	R	<0.005
11-11-99	015	Blank										----------
11-11-99	016	Blank										----------
11-15-99	017	Personal	Bob Cook, operator	2.0	8:26	15:47	433	866	310	11-15-99	R	<0.005
11-15-99	018	Area	W. Power house deck	2.0	8:25	15:48	433	866	319	11-15-99	R	<0.005
11-15-99	019	Area	Pump deck	2.0	8:24	15:49	433	866	324	11-15-99	R	<0.005
11-15-99	020	Area	North P/h basement	2.0	8:30	15:45	435	870	487	11-15-99	R	<0.005
11-15-99	021	Blank										----------
11-15-99	022	Blank										----------
11-16-99	023	Area	SE Power house deck	2.0	7:44	15:26	462	924	310	11-16-99	R	<0.005
11-16-99	024	Area	SW Power house deck	2.0	7:43	15:25	462	924	319	11-16-99	R	<0.005
11-16-99	025	Area	Pump deck	2.0	7:51	15:22	451	902	324	11-16-99	R	<0.005
11-16-99	026	Area	Center P/h basement	2.0	7:52	15:23	451	902	487	11-16-99	R	<0.005
11-16-99	027	Personal	Jim Wylie, operator	2.0	7:41	15:30	465	938	502	11-16-99	R	0.015
11-16-99	028	Blank										----------
11-16-99	029	Blank										----------

McCabe Corporation
Engineering & Contracting
3470 Brecksville Road
Richfield, OH 44286
330-659-3550 Fax 330-659-3596

Fax Cover Sheet

DRP-85

To:	Mr. Kendall Moore	**From:**	Leo Hicks
Fax:	312-353-4342	**Pages:**	6, including cover
Phone:	312-353-1147	**Date:**	4/28/00
Re:		**CC:**	

☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

● Comments:

Kendall:

I received analytical results for items 18, 19, & 20, which I had indicated would be received on Monday. A revised list is attached along with the analytical results.

If you should have any questions or need additional information please do not hesitate to contact this office.

Thank you,

Leo Hicks

McCabe Corporation
Engineering & Contracting
3470 Brecksville Road
Richfield, OH 44286
330-659-3550 Fax 330-659-3596

Fax Cover Sheet

To:	Mr. Kendall Moore	From:	Leo Hicks
Fax:	312-353-4342	Pages:	10, including cover
Phone:	312-353-1147	Date:	4/28/00
Re:		CC:	

☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

• Comments:

Kendall:

Please find attached recent analytical results for the Mahoningside Project in Warren, along with a recent drawing showing sampling locations and a corresponding sheet detailing sampling locations and analytical results for those locations . A brief summary of the findings is:

Sample #: 424-001	Vault from south screen house (penstock)	PCBs-non-detect
Sample #: 424-002	Sluice way sediment (base of retaing wall)	PCBs-57.4 ppm
Sample #: 424-003	North vault sump	PCBs-64.8 ppm
Sample #: 424-004	Discharge water from carbon system	PCBs-non-detect
Sample #: 425-001	River sediment at discharge pipe	PCBs-224 ppm
Sample #: 425-002	Debris sample in west boiler house	VOCs-non-detect

If you should have any questions please do not hesitate to contact this office.

Thank you,

Leo Hicks

GEO Analytical, Inc.

Date: 27-Apr-00

CLIENT:	McCabe Engineering	Client Sample ID:	425-001 River Sed.
Lab Order:	0004120	Tag Number:	RUSH - 24
Project:	9823 - Mahoningside	Collection Date:	4/25/00
Lab ID:	0004120-01A	Matrix:	SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS IN SOIL		SW8082				Analyst: DR
Aroclor 1016	ND	1.00		mg/Kg	1	4/27/00
Aroclor 1221	ND	1.00		mg/Kg	1	4/27/00
Aroclor 1232	ND	1.00		mg/Kg	1	4/27/00
Aroclor 1242	ND	1.00		mg/Kg	1	4/27/00
Aroclor 1248	ND	1.00		mg/Kg	1	4/27/00
Aroclor 1254	ND	1.00		mg/Kg	1	4/27/00
Aroclor 1260	284	1.00		mg/Kg	1	4/27/00
Surr: Decachlorobiphenyl	89.7	31.3-147		%REC	1	4/27/00
Surr: Tetrachloro-m-xylene	53.6	37.4-120		%REC	1	4/27/00

Qualifiers:

ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level

PRELIMINARY

G e o Analytical, Inc.

9983 Ravenna Rd. Suite A-3
Twinsburg, OH 44087
Phone Number 330 963-6880
Fax Number 330 963-6875

CHAIN OF CUSTODY RECORD 0004120

COMPANY NAME AND ADDRESS: McCabe Engineering, Attn: Wellsville EP, Rockford, OH 44236

PROJECT NUMBER AND DESCRIPTION: Midway Rd 9873

SAMPLER SIGNATURES:

STA.#	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	Analysis Requested: BTEX (8021)	VOC							VAP	NOTES
925-001	4-25-00	3:00		X	River Sediment	1	X					1				24-hour
925-002	4-25-00	4:00		X	West Bolne House	1		X				2				

CHAIN OF CUSTODY SIGNATURES (Name, Company, Date, Time)

1. Relinquished By: _____
   Received By: _____
2. Relinquished By: [signature]
   Received By: _____
3. Relinquished By: _____
   Received By: _____
4. Submitted to Laboratory By: _____
   Received for Laboratory By: [signature] 4.26.00 8:[illegible] AM

GEO Analytical, Inc.

Date: *26-Apr-00*

CLIENT:	McCabe Engineering	**Client Sample ID:**	424-004 Ditch Water
Lab Order:	0004115	**Tag Number:**	RUSH - 24
Project:	9823 - Mahoningside	**Collection Date:**	4/24/00
Lab ID:	0004115-04A	**Matrix:**	AQUEOUS

Analytes	Result	Limit	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS IN WATER		**SW8081**				Analyst: DR
Aroclor 1016	ND	0.990		µg/L	1	4/28/00
Aroclor 1221	ND	0.990		µg/L	1	4/28/00
Aroclor 1232	ND	0.990		µg/L	1	4/28/00
Aroclor 1242	ND	0.990		µg/L	1	4/28/00
Aroclor 1248	ND	0.990		µg/L	1	4/28/00
Aroclor 1254	ND	0.990		µg/L	1	4/28/00
Aroclor 1260	ND	0.990		µg/L	1	4/28/00
Surr: Decachlorobiphenyl	102.3	12-140		%REC	1	4/28/00
Surr: Tetrachloro-m-xylene	86.6	11-151		%REC	1	4/28/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected between MDL and RL

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

H - Holding times for preparation or analysis exceeded

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

* - Value exceeds Maximum Contaminant Level

GEO Analytical, Inc.

Date: *26-Apr-00*

CLIENT:	McCabe Engineering	**Client Sample ID:**	424-003 N.Vault
Lab Order:	0004115	**Tag Number:**	RUSH - 24
Project:	9823 - Mahoningside	**Collection Date:**	4/24/00
Lab ID:	0004115-03A	**Matrix:**	SOLID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS IN SOIL		SW8081				Analyst: DR
Aroclor 1016	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1221	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1232	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1242	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1248	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1254	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1260	64.8	1.00		mg/Kg	1	4/28/00
Surr: Decachlorobiphenyl	88.0	31.3-147		%REC	1	4/28/00
Surr: Tetrachloro-m-xylene	72.7	37.4-130		%REC	1	4/28/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level

PRELIMINARY

GEO Analytical, Inc.

Date: *26-Apr-00*

CLIENT:	McCabe Engineering	**Client Sample ID:**	424-002 Sediment
Lab Order:	0004115	**Tag Number:**	RUSH - 24
Project:	9823 - Mahoningside	**Collection Date:**	4/24/00
Lab ID:	0004115-02A	**Matrix:**	SOLID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS IN SOIL		SW8081				Analyst: DR
Aroclor 1016	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1221	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1232	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1242	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1248	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1254	ND	1.00		mg/Kg	1	4/28/00
Aroclor 1260	87.4	1.00		mg/Kg	1	4/28/00
Surr: Decachlorobiphenyl	98.7	31.3-147		%REC	1	4/28/00
Surr: Tetrachloro-m-xylene	80.2	37.4-130		%REC	1	4/28/00

Qualifiers: ND - Not Detected at the Reporting Limit; S - Analyte Recovery outside accepted recovery limits;
J - Analyte detected below quantitation limit; R - RPD outside accepted recovery limits;
B - Analyte detected in the associated Method Blank; E - Value above quantitation range;
* - Value exceeds Maximum Contaminant Level

GEO Analytical, Inc.

Date: *26-Apr-00*

CLIENT:	McCabe Engineering	Client Sample ID:	424-001 Comp Soil
Lab Order:	0004115	Tag Number:	RUSH - 24
Project:	9823 - Mahoningside	Collection Date:	4/24/00
Lab ID:	0004115-01A	Matrix:	SOLID

Analytes	Result	Limit	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS IN SOIL		SW8081				Analyst: DR
Aroclor 1016	ND	1.00		mg/Kg	1	4/26/00
Aroclor 1221	ND	1.00		mg/Kg	1	4/26/00
Aroclor 1232	ND	1.00		mg/Kg	1	4/26/00
Aroclor 1242	ND	1.00		mg/Kg	1	4/26/00
Aroclor 1248	ND	1.00		mg/Kg	1	4/26/00
Aroclor 1254	ND	1.00		mg/Kg	1	4/26/00
Aroclor 1260	ND	1.00		mg/Kg	1	4/26/00
Surr: Decachlorobiphenyl	90.7	31.3-147		%REC	1	4/26/00
Surr: Tetrachloro-m-xylene	88.9	37.4-130		%REC	1	4/26/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level

PRELIMINARY

G E O Analytical, Inc.

8283 Resource Rd. Suite A-7
Twinsburg, OH 44087
Phone Number 330 963 6909
Fax Number 330 963 6975

CHAIN OF CUSTODY RECORD 0004115

COMPANY NAME AND ADDRESS: McCabe Engineering 2470 Brecksville Rd. Richfield, OH 44286

PROJECT NUMBER AND DESCRIPTION: Malvernside 9823

SAMPLER SIGNATURES:

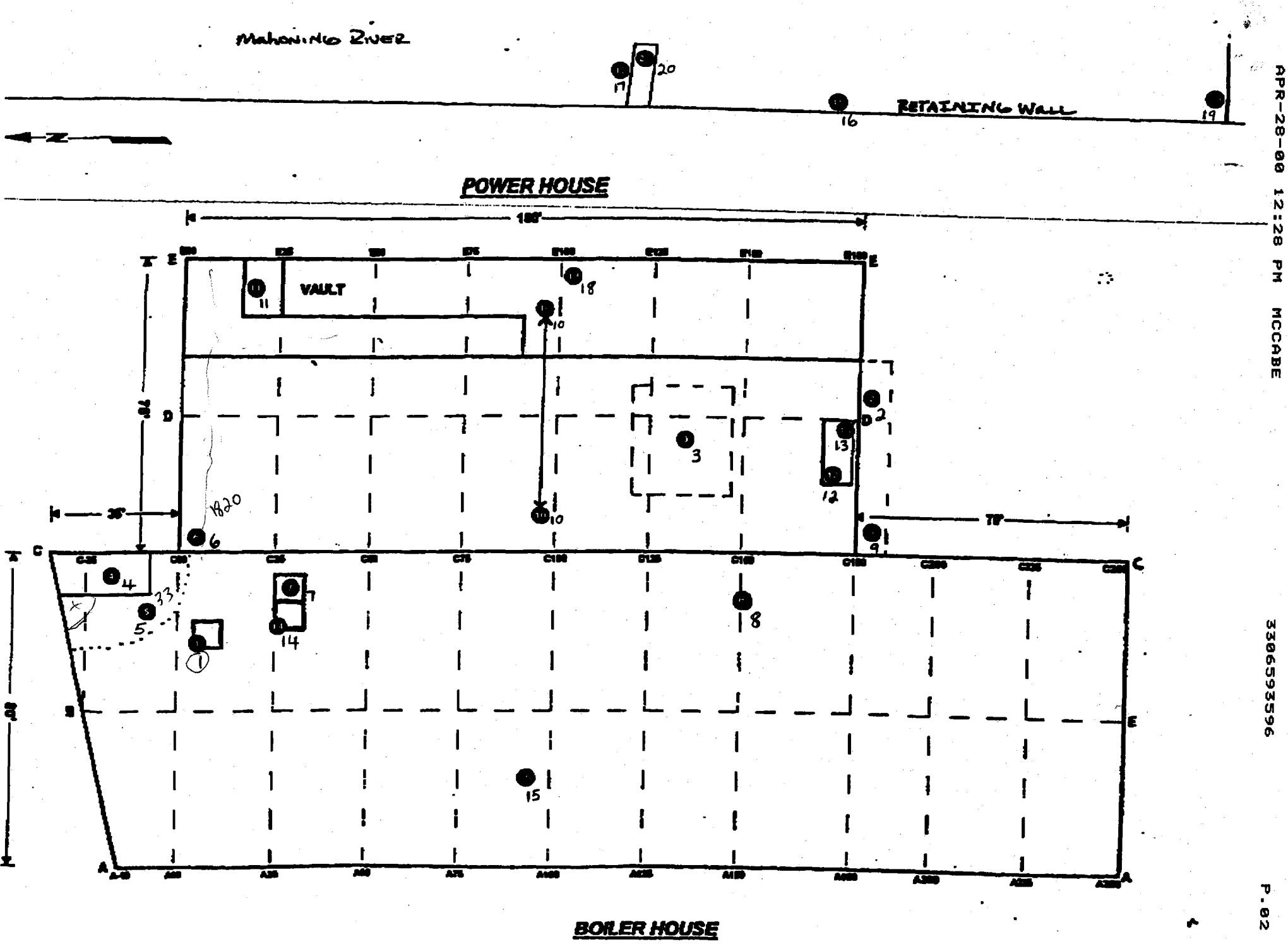
VAP

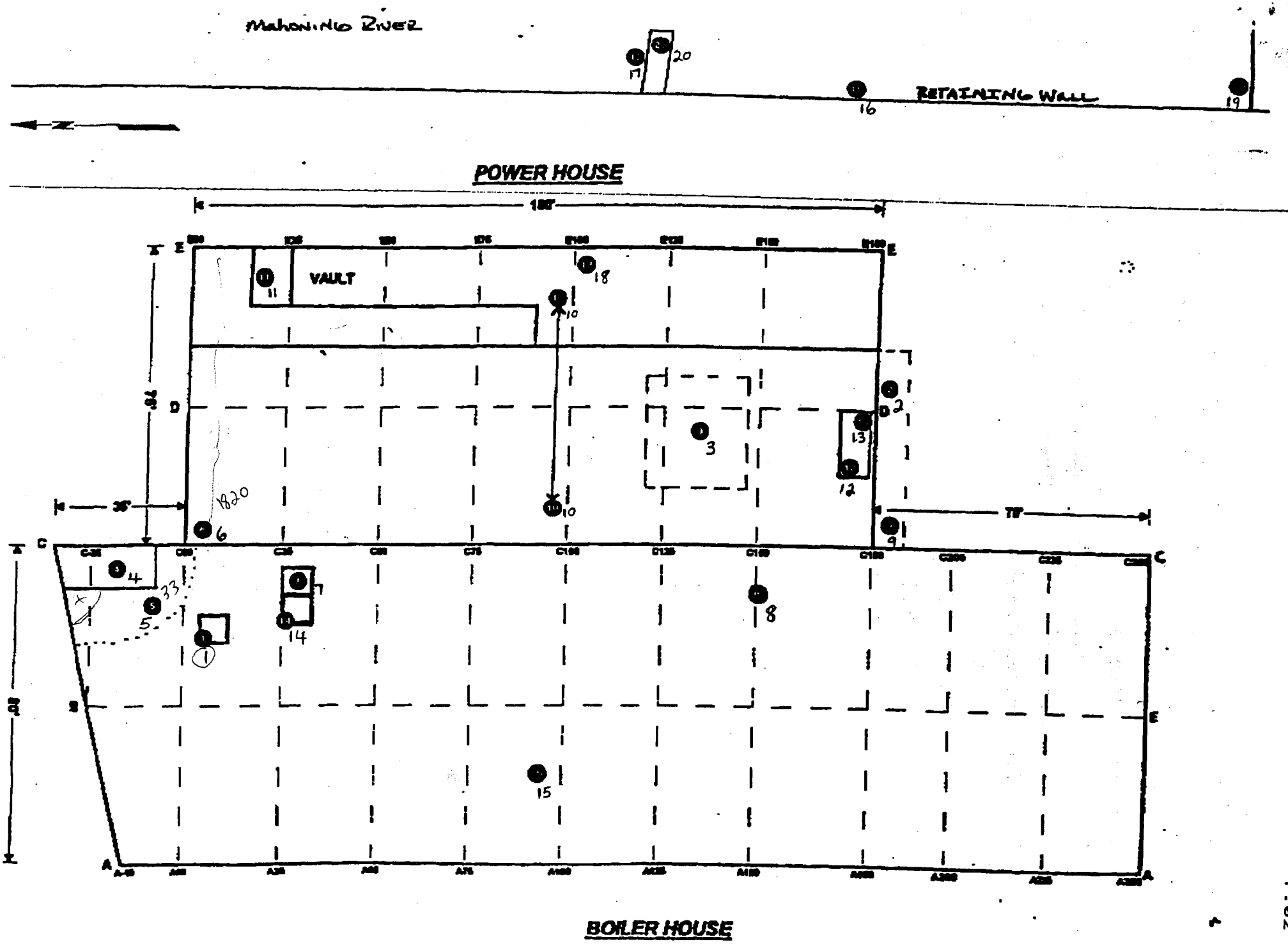
STA.#	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	Analysis Requested	NOTES
424-001	4-24-00	9:30	X		Composite-Vault Sediment	1	X	Results By Tues 4-25
424-002	4-24-00	12:00		X	Sluiceway Sediment	1	X X	
424-003	4-24-00	2:30		X	North Vault Sump	1	X	
424-004	4-24-00	3:00		X	Discharge Water	1	X	

CHAIN OF CUSTODY SIGNATURES (Name, Company, Date, Time)

1. Relinquished By: _____
   Received By: _____
2. Relinquished By: _____
   Received By: _____
3. Relinquished By: _____
   Received By: _____
4. Submitted to Laboratory By: _____
   Received for Laboratory By: Amy Omeara 4/24/00 4:40 P.M.

1. PCBs in shale: 4,500 & 15,000 ppm
2. PCBs in sediment: 276 ppm
3. Depressed slab (decant area), PCBs in drain: 65 ppm
4. Electrical Room, PCBs in sediment: 289 ppm
5. PCBs in sediment: >33 ppm
6. PCBs in drain: 1,820 ppm
7. Sump #3, PCBs in debris at 6 feet: 432 ppm
8. Catch Basin PCBs in debris at 4 feet: 25 ppm
9. PCBs in drain: 147,000 ppm
10. Composite sample (2 locations) in vault
    (penstock from s. screen house) PCBs non-detect
11. Sump #2 (north vault sump) PCBs in sediment: 64.8 ppm
12. Sump #1 (south sump) sediment sample from base of sump (USEPA)
13. Sump #1 (south sump) sample from break in the wall (USEPA)
14. Sump #4 sample from beneath floor slab (USEPA)
15. Sample of soil and debris in pit, VOC analysis: non-detect
16. Sediment sample at base of retaining wall in small spillway PCBs 57.4 ppm,
    TPH-DRO 5,800 ppm
17. Sediment sample from river at discharge pipe: PCBs 224 ppm
18. Sediment sample from discharge pipe in power house-results by Monday, 5/1/00
19. Sediment sample from below Summit Street Bridge- results by Monday, 5/1/00
20. Sediment sample from within discharge pipe at the river- results by Monday,
    5/1/00





1. March 23, 2000- PCBs in shale: **4,500-**
   March 30, 2000- Confirmatory PCBs in shale: **15,000 ppm**
2. November 22, 1999- PCBs in sediment: **276 ppm**
3. April 6, 2000- Depressed slab (decant area), PCBs in drain: **65.5 ppm**
4. November 22, 1999- Electrical Room, PCBs in sediment: **295 ppm**
5. November 5, 1999- PCBs in sediment: **33.8 ppm**
6. April 6, 2000- PCBs in drain: **1,820 ppm**
7. April 6, 2000- Sump #3, PCBs in debris at 6 feet: **432 ppm**
8. April 6, 2000- Catch Basin PCBs in debris at 4 feet: **24.5 ppm**
9. April 6, 2000- PCBs in drain: **147,000 ppm**
10. April 24, 2000- Composite sample (2 locations) in vault (penstock from s. screen house) PCBs **non-detect**

11. April 24, 2000- Sump #2 (north vault sump) PCBs in sediment: **64.8 ppm**
12. April 25, 2000- Sump #1 (south sump) sediment sample from base of sump (USEPA)
13. April 25, 2000- Sump #1 (south sump) sample from break in the wall (USEPA)
14. April 25, 2000- Sump #4 sample from beneath floor slab (USEPA)
15. April 24, 2000- Sediment sample at base of retaining wall in small spillway PCBs **57.4 ppm,** TPH-DRO 5,800 ppm, total mercury 1.15 ppm
16. April 25, 2000- Sample of soil and debris in pit, VOC analysis: non-detect
17. April 25, 2000- Sediment sample from river at discharge pipe: PCBs **224 ppm**
18. April 27, 2000- Sediment sample from discharge pipe in power house: PCBs **4,300 ppm**
19. April 27, 2000- Sediment sample from below Summit Street Bridge: PCBs **1.4 ppm,** total mercury 0.143 ppm
20. April 27, 2000- Sediment sample from within discharge pipe at the river: PCBs **212 ppm**
21. May 10, 2000- Sample of soil in Sump #9, near the west wall of the boiler house: **PCB analysis, non-detect**

Minerva Enterprises, Inc.

GENERATOR'S WASTE PROFILE SHEET — Please Print Clearly in Ink or Type

A. WASTE GENERATOR INFORMATION

1. Generator Name U.S. EPA MAHONINGSIDE POWER PLANT
2. Facility Street Address 650 SUMMIT ST.
3. Phone 440-250-1743
4. Facility City WARREN
5. State/Province OHIO
6. Zip Code 44484
7. Customer Name DART SERVICES INC
8. Customer Phone 800-445-7887
9. Customer Contact BOB RUGGERI
10. Customer Fax 330-482-9242

B. WASTE STREAM INFORMATION

1. Name of Waste ACM CONTAMINATED SOIL AND DEBRIS
2. Profile of Waste Describe how generated **RESIDUAL SOIL AND DEBRIS GENERATED FROM THE DEMOLITION OF A POWER PLANT**
3. Check if additional information is attached. Indicate the number of attached pages:
4. Estimated Annual Volume 8000 ☒ Tons ☐ Yards ☐ Other (Specify)
6. Personal Protective Equipment Requirements NONE
7. Transporter / Transfer Station
8. Hazard Class/ID # or None? CLASS 9 , NA2212, III
9. USDOT Shipping Name RQ, ASBESTOS, 9, NA 2212, III

C. GENERATOR'S CERTIFICATION (PLEASE CHECK APPROPRIATE RESPONSES, SIGN/DATE BELOW)

1. Is the waste represented by this waste profile sheet a "Hazardous Waste" as defined by USEPA, Canadian, Mexican and/or state/province regulations, is the location where generated or ultimately managed?.. ☐ Yes ☒ NO
2. Does the waste represented by this waste profile sheet contain regulated material or regulated Concentrations of Polychlorinated Biphenyl's (PCB's)?... ☐ Yes ☒ NO
3. Does this waste profile sheet and all attachments (if any) contain true and accurate descriptions of the waste materials? ☒ Yes ☐ NO
4. Has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor?... ☒ Yes ☐ NO
5. Is the analytical data attached hereto derived from testing a representative sample in accordance with 40 CFR 261.20 (c) or equivalent rules? ☒ Yes ☐ NO
6. Will all changes that occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor?... ☒ Yes ☐ NO
7. Does this waste contain any asbestos waste? ☒ Yes ☐ NO
8. If Yes Pipe transite panel ceiling tile floor tile fireproofing roofing Other: Soil & Debris
9. Minerva requires all materials to be 4 foot minus all sides without special approval. The material meets size requirements. ☒ Yes ☐ NO

I, the undersigned, certify that I am knowledgeable and responsible for the waste generated and identified above, and the information submitted herein, is true and correct to the best of my knowledge and belief.

Certification Signature: X [signature] Title: X OSC

Name (Type or Print): X MARK DURNO Company Name: X U.S. EPA Date: 2-17-05

D. FOR MINERVA'S APPROVAL USE ONLY

☐ Landfill ☐ ACM- Friable ☐ Non-Friable
☐ Construction/Demolition Debris ☐ Other (Specify)

Precautions, Special Handling Procedures, or Limitations on Approval. Credit Application on File? Yes or No

Facility Decision ☐ Approved ☐ Disapproved

(Optional) QAQC Review : Date:

Form RevJun2004

REPUBLIC SERVICES, INC.

Office Use Only
Approval Number:
Expiration Date:

SPECIAL WASTE PROFILE

Information utilized for completion of this form must originate from an authorized representative of the generator of the waste material. The information on this form must be COMPLETE, LEGIBLE, and the form must be SIGNED.

A. GENERATOR INFORMATION

1. Generator Name: U.S. EPA/ MAHONINGSIDE POW. PLT
2. Address: 25089 CENTERRIDGE RD.
   City: WEST LAKE County: CUYAHOGA
   State: OHIO Zip: 44145
3. Site Location (if different): 650 SUMMIT ST. WARREN, OH. 44484
4. Contact Name: MARK DURNO
5. Phone Number: 440-250-1743
6. Fax Number: 440-250-1750

B. CUSTOMER/BILLING INFORMATION

1. Billing Name: AMERICAN WASTE MGMT SERVICES
2. Address: ONE AMERICAN WAY
   City: WARREN County: TRUMBULL
   State: OHIO Zip: 44484
3. Contact Name: TOM VLAJKOVICH
4. Phone Number: 330-283-6825
5. Fax Number: 330-856-8480
6. Is there a service agreement on file? ☒ YES ☐ NO

C. TRANSPORTER INFORMATION

1. Name: VARIOUS
2. Street Address:
   City: State: Zip:
3. Phone Number:
4. Fax Number
5. Contact Name:

D. AGENT/CONSULTANT INFORMATION

1. Name: Env. Quality Mgmt
2. Street Address: 1800 Carillon Blvd
   City: Cincinnati State: OH Zip: 45240
3. Phone Number: 800-500-0575
4. Fax Number: 513-825-9728
5. Contact Name: Steve Letany
6. Is there a Letter of Authorization on file? ☐ YES ☐ NO

E. WASTE STREAM INFORMATION

1. Common Name of Waste: ACM CONTAMINATED SOIL AND DEBRIS
2. Detailed Description of Process: RESIDUAL SOIL AND DEBRIS GENERATED FROM THE DEMOLITION OF A POWER PLANT
3. Physical State at 70°F ☒ Solid ☐ Semi-Solid ☐ Liquid ☐ Powder ☐ Other
4. Odor: ☒ None ☐ Mild ☐ Significant: (describe)
5. Color: BROWN/GRAY
6. Flash Point: NA °F ____ °C
7. Reactive: ☒ NO ☐ YES with
8. pH Range: 7
9. Heat Generating Waste ☐ NO ☐ YES
10. Free Liquid: ☒ NO ☐ YES
11. Water Content: ____ % by water
12. Does the waste contain radioactive or U.S.D.O.T. hazardous materials, PCB's, or asbestos? ☒ NO ☐ YES
13. Does the waste contain any etiological agents or untreated medical waste? ☒ NO ☐ YES
14. Is the waste proposed for management a hazardous waste as defined by Federal or State regulations? ☒ NO ☐ YES

F. SUPPLEMENTAL INFORMATION

1. Attached Document(s): ☐ None ☐ MSDS ☒ Certified Analytical Report ☐ Memo/Letter ☐ Process Knowledge
2. If analytical data is attached, is the data derived from testing a representative sample in accordance with 40 CFR 261 and/or other applicable laws? ☒ YES ☐ NO

G. SHIPPING INFORMATION

1. Packaging: ☒ Bulk Solids ☐ Bulk Liquids ☐ Drums ☐ Roll-Off ☒ Dump Truck ☐ Tank Truck ☐ Other:
2. Estimated Volume: 6-8000 ☒ Tons ☐ Cubic Yards ☐ Drums ☐ Gallons ☐ Other:
3. Shipping Frequency: 500 TON per ☐ One Time ☐ Month ☐ Year ☐ Other: DAY
4. Designated Landfill(s):
5. Disposal Method: ☒ Landfill ☐ Solidification ☐ Bioremediation ☐ Other:

H. Generator's Certification Statement:

I hereby certify that the above and attached information is complete and accurate to the best of my ability, that no deliberate information was omitted, that all known and suspected hazards have been disclosed, and that the waste is not a regulated hazardous waste by government or local authority, and does not contain PCB's regulated by TSCA or any other regulatory authority. If any of the above information changes, I agree to notify Republic Services prior to offering the waste for shipment or management.

I, MARK DURNO (NAME, PLEASE PRINT) am employed by U.S. EPA (COMPANY NAME) and am authorized to sign this request for

COMPANY NAME: U.S. EPA
DATE: 2-17-05

PRINTED NAME: MARK DURNO
SIGNATURE: